DRAFT FINAL ENGINEERING EVALUATION/COST ANALYSIS

Avery Landing Site Avery, Idaho TDD: 08-05-0006



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December 2010

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List of Abbreviations

Abbreviation	Definition
%	percent
°F	degrees Fahrenheit
AAR	Applied Archaeological Research, Inc.
ASAOC	Administrative Settlement Agreement and Order on Consent
ARAR	applicable or relevant and appropriate requirements
ART	ART Engineering, LLC
AST	above-ground storage tank
bgs	below ground surface
BMP	best management practice
CERCLA	Comprehensive Environmental Response, Compensation, and Liability
	Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CMC	CMC Real Estate Company
COCs	contaminants of concern
CRE	Cultural Resources Evaluation
CSM	conceptual site model
CWA	Clean Water Act
DRO	diesel-range organics
E & E	Ecology and Environment, Inc.
EE/CA	Engineering Evaluation/Cost Analysis
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration
FoE	frequency of exceedance
ft/day	feet per day
Golder	Golder Associates, Inc.
IC	institutional control
IDAPA	Idaho Administrative Procedures Act

Idaho Department of Environmental Quality

IDEQ

IDTL Initial Default Target Levels

IDW investigation-derived waste

LNAPL light non-aqueous phase liquid

LTTD low-temperature thermal desorption

μg/L micrograms per liter

MCLs Maximum Contaminant Levels

mg/kg milligrams per kilogram

Milwaukee Railroad Chicago, Milwaukee, St. Paul and Pacific Railroad

NCP National Oil and Hazardous Substances Pollution Contingency Plan

NESHAP National Emission Standard for Hazardous Air Pollutants

OSHA Occupational Safety and Health Administration

PAHs polycyclic aromatic hydrocarbons

PCBs polychlorinated biphenyls

Potlatch Corporation

PVC polyvinyl chloride

RAOs removal action objectives

RSL Regional Screening Levels

START Superfund Technical Assessment and Response Team

SVOCs semivolatile organic compounds

TAT Technical Assistance Team

TBC to be considered

TDD Technical Direction Document

TPH total petroleum hydrocarbons

UECA Uniform Environmental Covenants Act

URS URS Consultants, Inc.

USGS United States Geological Survey

VOC volatile organic compounds

Executive Summary

The Avery Landing Site (Site) is a former railroad roundhouse and maintenance facility for the Chicago, Milwaukee, St. Paul, and Pacific Railroad (Milwaukee Railroad) located in Avery, Idaho. Railroad operations at the Site ceased in the 1970s, and most of the railroad facilities and structures were subsequently demolished. Portions of the former railroad facility Site are currently owned by Potlatch Corporation (Potlatch), Larry Bentcik, and the Federal Highway Administration (FHWA). Shoshone County holds an easement interest in a portion of the Site. Potlatch currently owns the largest portion of the Site, and have used this property for log storage and for temporary housing of employees.

Soil, groundwater, surface water, and sediment at the Avery Landing Site contain petroleum hydrocarbons and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substances that appear to be associated with the Site's historical use as a railroad roundhouse and maintenance facility. Petroleum hydrocarbons (diesel and heavy oil) and other hazardous substances are present in subsurface soil and groundwater and are discharging into the St. Joe River, which is adjacent to the Site. Petroleum discharges to surface waters and shorelines of the United States contravene the requirements of the Clean Water Act. Petroleum as light non-aqueous phase liquid (LNAPL) present in groundwater and surface water also contravenes Idaho State water quality standards.

Investigations and cleanup actions have been performed by Potlatch at the Site since the late 1980s pursuant to agreements with the Idaho Department of Environmental Quality (IDEQ). Potlatch has installed two different treatment/containment systems at the Site to address the petroleum hydrocarbons that are present in the groundwater and discharging to the St. Joe River. In the early 1990s, Potlatch installed a groundwater recovery system in which contaminated groundwater was pumped from extraction wells to an oil/water separator. Recovered product was stored for later off-Site disposal, and the recovered groundwater was re-injected upgradient of the Site. By 2000, only 1,290 gallons of product had been recovered, and discharges to the St. Joe River were still occurring. Because the groundwater pump and treatment system was not effective in preventing discharges to the St. Joe River, in 2000 Potlatch removed this system and installed a vertical impermeable membrane along the bank of the St. Joe River to try to prevent the petroleum from discharging into the River. Behind the impermeable membrane, a recovery trench and extraction wells were installed for passive oil recovery. The membrane failed to be effective as discharges to the St. Joe River were still observed after the containment barrier was installed.

In 2007, the Potlatch Corporation entered into an Administrative Settlement Agreement and Order on Consent (ASAOC) with EPA to perform an Engineering Evaluation/Cost Analysis (EE/CA) for the Site. Field work associated with the EE/CA was completed by Golder Associates, Inc., (Golder) of Redmond, Washington, in 2009, and Potlatch submitted a draft EE/CA report (Golder 2010a) and Cultural Resources Evaluation (CRE) report (Golder 2010b) to EPA in January 2010. Following a careful and thorough review of the EE/CA and CRE draft reports prepared and submitted by Potlatch, it was determined that the deficiencies in these drafts could best be corrected by having EPA produce the final reports.

Human health and ecological streamlined risk evaluations were performed for the EE/CA using analytical data collected during the 2007 EPA removal assessment and the 2009 field work performed by Potlatch. The results of the human health streamlined risk evaluation indicated that soil, groundwater, and surface water are impacted by Site-related contamination. Numerous analytes in Site media exceed health-based screening criteria, indicating that adverse health effects due to exposure to Site-related contamination are possible. In particular, carcinogenic polycyclic aromatic hydrocarbons (PAHs) exceed screening criteria for all media. The results of the ecological risk evaluation indicated that surface water and sediment samples from the St. Joe River near the Avery Landing Site are being impacted by petroleum contamination. In particular, diesel- and oil-range organics were frequently detected in sediment and occasionally in surface water. In addition, selected PAHs in sediment and surface water exceeded risk-based concentrations.

The scope of the proposed removal action is the reduction of petroleum product and hazardous substances to acceptable human health and ecological risk-based concentrations at the Site. The removal action objectives (RAOs) developed for the Site include removing the current non-functioning groundwater containment and extraction system; removing the bank and associated petroleum contamination; reconstruction of the bank; removal, treatment, and/or management of LNAPL and associated hazardous substances in the subsurface of the Site; and proper off-Site disposal of any waste streams generated during the removal action.

To achieve the RAOs, the EE/CA identified removal action alternatives, including excavation of the contaminated soil, followed by either low-temperature thermal desorption (LTTD), soil washing, or off-Site disposal of the contaminated materials. The removal action alternatives were analyzed individually and compared relative to one another to identify the advantages and disadvantages of each alternative relative to preventing discharges to surface waters and shorelines of the United States and to overall protection of public health and the environment. Estimated full scale costs are \$10.54 million for LTTD, \$7.89 million for soil washing, and \$8.5 million for off-Site disposal.

The recommended alternative for the removal action is Alternative A4, LNAPL extraction followed by excavation and off-Site disposal. This alternative was found to be effective and implementable. The key advantages of Alternative A4 are that it is the most straightforward and least likely problematic alternative. Although Alternative A4 is not the least expensive to implement, the additional costs would be offset in part by avoiding potential cost increases due to administrative and technical feasibility concerns associated with the other alternatives such as bench and pilot scale treatability investigations and design requirements. Additionally, Alternative A4 is likely the most adaptable to evolving Site-specific conditions that would emerge during cleanup activities.

1 Introduction

The United States Environmental Protection Agency (EPA) has tasked Ecology and Environment, Inc., (E & E) to prepare this Engineering Evaluation/Cost Analysis (EE/CA) for the Avery Landing Site in Avery, Idaho (Site). This EE/CA provides a vehicle for public involvement and evaluates and recommends the appropriate response for the Site. E & E performed the work under Superfund Technical Assessment and Response Team (START)-3 contract EP-S7-06-02, Technical Direction Document (TDD) 08-05-0006.

Soil, groundwater, surface water, and sediment at the Avery Landing Site contain petroleum hydrocarbons and hazardous substances that appear to be associated with the Site's historical use as a railroad roundhouse and maintenance facility for the Chicago, Milwaukee, St. Paul, and Pacific Railroad (Milwaukee Railroad). Petroleum hydrocarbons (diesel and heavy oil) and other hazardous substances are present in subsurface soil and groundwater and are discharging into the St. Joe River, which is adjacent to the Site.

Several owners have been identified for the Site, including Potlatch Corporation (Potlatch), Larry Bentcik, and the Federal Highway Administration (FHWA). Shoshone County holds an easement interest in a portion of the Site. In 2007, Potlatch entered into an Administrative Settlement Agreement and Order on Consent (ASAOC) with EPA to perform an EE/CA at the Site. Field work associated with the EE/CA was completed in 2009 by Golder Associates, Inc., (Golder) of Redmond, Washington, and Potlatch submitted a draft EE/CA report (Golder 2010a) and Cultural Resources Evaluation (CRE; Golder 2010b) to EPA in January 2010.

Following a careful and thorough review of the EE/CA and CRE draft reports prepared and submitted by Potlatch, it was determined that the deficiencies in these drafts could best be corrected by having EPA produce the final reports. START prepared this EE/CA based on existing Site information and data; no additional field investigation work was performed. This EE/CA was conducted in accordance with the criteria established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as well as sections of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) applicable to removal actions (40 Code of Federal Regulations [CFR] Section 300.415). Section 300.415(b)(4)(i) of the NCP requires that an EE/CA be completed for all non-time-critical removal actions. This EE/CA identifies the objectives of the removal action and analyzes the advantages and disadvantages of each alternative relative to preventing discharges to surface waters and shorelines of the United States and to overall protection of public health and the environment. This EE/CA also provides information about the nature and extent of contamination and potential risks posed by the contaminants to human and ecological receptors. The EPA document Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA (EPA 1993) was used in the preparation of this EE/CA.

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2 Site Characterization

2.1 Site Description and Background

2.1.1 Site Location

The Avery Landing Site is located in the St. Joe River Valley in the Bitterroot Mountains in northern Idaho, 1 mile west of the town of Avery in Shoshone County (Figures 2-1, 2-2, and 2-3). The Site is directly adjacent to the St. Joe River to the south and Highway 50 to the north, and is at 47°14′ 57″ north latitude and 115° 49′ 16″ west longitude (Google Earth 2010). The Site is located within the northeast quarter of Section 16, Township 45 North, Range 5 East, and the northwest corner of Section 15, Township 45 North, Range 5 East.

2.1.2 Type of Facility and Operational Status

The Site was used as a switching and maintenance facility for the Milwaukee Railroad from 1907 until 1977. The facility included a turntable, roundhouse, machine shop, fan house, engine house, boiler house, storehouses, coal dock, oil tanks, a pump house, and other aboveground structures. Activities included refueling locomotives, using solvents to clean engine parts, cleaning locomotives, and maintaining equipment. The facility was located at the end of an electric rail line from the east; at the Avery facility, trains switched to fuel oil and/or diesel locomotives. Fuel oil was stored on Site in a 500,000-gallon above-ground storage tank (AST). The Milwaukee Railroad began to operate electric locomotives in the mid-1910s and continued until the mid-1970s, and transformer oil was reportedly stored at the Avery Landing Site (URS 1993). During field investigations in 2007 and 2009, trace concentrations of PCBs were detected in subsurface soils, groundwater, and LNAPL (E & E 2007, Golder 2009).

Figure 2-4 illustrates a historical railroad facility diagram, and Figure 2-5 presents this diagram superimposed on a recent aerial photograph of the Site. The locations of relevant features are indicated and include the turntable, machine shop, cinder pit, boiler house, oil and coal bins, 50,000-gallon diesel and fuel oil AST (indicated as the "50' oil service tank" on Figures 2-4 and 2-5), other oil tanks, and associated piping.

The Milwaukee Railroad filed bankruptcy and then reorganized under the name CMC Real Estate Company (CMC). Under CMC, the properties were sold and otherwise divested (TAT n.d.). Potlatch leased portions of the Site from the Milwaukee Railroad from 1973 to 1980. Potlatch then acquired the western portion (Section 16) of the Site in 1980 (Golder 2010a), although there are reports that Potlatch attempted to purchase the entire Site (including the eastern portion currently owned by Mr. Bentcik). Many of the former Milwaukee Railroad facilities, including the turntable, roundhouse, engine house, machine shop, and cinder pit, were located on the portion of the property obtained by Potlatch. After Potlatch acquired the land, Potlatch leveled and graded the property and then used it for temporary log storage. Portions of the property have also been leased to tenants for log storage, parking, and trailer sites (Golder 2010a). The buildings and equipment associated with the former railroad maintenance facility were presumably demolished at some point after Milwaukee Railroad ceased operations, but it is not clear who performed the demolition, when it was performed, or how the demolition debris was disposed.

The eastern portion (Section 15) of the Site reverted back to the family of the previous owner (before Milwaukee Railroad began operations), and this family sold the property to David Thierault. In 1996, Mr. Thierault sold the property to Mr. Larry Bentcik, who currently owns the property (Bentcik 2007). Historical railroad facilities on the eastern portion of the Site included an office, store house, oil pipes, and sand, coal, and oil storage.

The original railroad grade along the northern edge of the Site was acquired by the Federal Highway Administration for use in the construction and expansion of State Highway 50 (URS 1993). A portion of the Site extends to the shoulder north of the highway, where the former railroad roundhouse AST was located, and where Potlatch re-injected untreated groundwater from the 1990s pump-and-treat system after processing through the oil/water separator.

The maintenance facility at the Avery Landing Site was related to several other Milwaukee Railroad facilities approximately 0.75 miles east in the town of Avery. In the town itself was a passenger terminal and Substation No. 14, an electric substation that provided electricity for the electric rail line to the east.

2.1.3 Structures and Topography

South of the highway, the Site is composed of two properties (Figure 2-3). The eastern portion (Section 15) is owned by Larry Bentcik, who maintains a vacation cottage and mule corral on the property. The western portion (Section 16) is owned by Potlatch. Until recently, there were several houses, motor homes, and motor home utility hook-ups. Several residents lived on the property year-round, and several more resided on the property seasonally. A domestic well was located on the Potlatch property for residential use. In 2009, Potlatch removed and/or demolished the residences and disconnected the trailer sites from the domestic well. The domestic well is reportedly disconnected and not in use (Golder 2010a), but it apparently has not been abandoned in accordance with state regulations.

Numerous groundwater monitoring wells and "stick-up pipes" (polyvinyl chloride [PVC] pipes installed vertically in subsurface soil) are located on Site. The stick-up pipes were used to monitor for the presence of light non-aqueous phase liquid (LNAPL) on groundwater during previous investigations. There are also several larger wells that had been used for the product recovery system installed for Potlatch. In the center of the Site there is an approximately 5,000-gallon AST and a shed on the concrete slab. The AST was used by Potlatch to store recovered product from the product recovery system operated from 1994–2000. The shed is used to store absorbent booms used by Potlatch to control the product discharges to the St. Joe River. Near the shed, drums of investigation-derived waste (IDW) from EPA's 2007 removal assessment are staged. Additionally, there are existing (and possibly historical) utilities, including above-ground and below-ground power lines, pipelines, and sewer lines.

There is little remaining at the Site to indicate its previous use as a railroad roundhouse and maintenance facility, with the exception of a concrete slab and the remnants of rail lines leading to the former roundhouse. Presently, the Site is on relatively flat ground with gravel and a small amount of vegetative growth. The Site was largely composed of fill material as a result of construction of the railroad facility, and Potlatch performed additional leveling and grading after purchasing the property (URS 1993).

The elevation of the Site is approximately 2,465 feet above mean sea level (Google Earth 2010). The Site is on a flat, filled bank at a bend in the St. Joe River (Figures 2-2 and 2-3). The river valley is narrow and remote, and the immediate area around the Site is largely rural, with some areas of residential and commercial use. Just across the highway to the north are steep mountain slopes.

2.1.4 Geology and Soil Information

The Site is located within the Northern Rocky Mountain province along the south slope of the Bitterroot Mountains in the St. Joe River valley. The subsurface geology and geology of the surrounding hills is dominated by Precambrian (middle Proterozoic) sedimentary deposits including carbonates and quartzite which are part of the Piegan Group, also known as the Middle Belt Carbonate, Apple Creek Formation (Winston 2007). These deposits were part of an intracratonic basin that was periodically connected to the ocean system, and lacustrine and oceanic deposits can be found throughout the group (Ross and Villeneuve 2003, Link et al. 2007). The depth to bedrock at the Site is unknown.

The Site was developed along an active portion of the St. Joe River by in-filling from the steep canyon walls, which is evident from the coarse-grained angular gravels that are apparent in the upper 10-12 feet of fill across the Site. The Site has historically undergone extensive grading to make it a suitable location for a railroad facility. As such, the Site is immediately underlain by unconsolidated sand and gravel fill materials existing from ground surface to about 12 feet below grade. At various Site locations, debris including concrete, wood waste, scrap metal, asphaltic material, and pipes of various material and dimensions were encountered in test pit excavations. Approximately 700 feet of the river bank adjacent to the Site was excavated and backfilled with fill soils and riprap rock placed on the riverside surface for armor to minimize bank erosion. Below the unconsolidated fill material are rounded gravels deposited by the St. Joe River in a high energy environment.

2.1.5 Hydrogeology

The St. Joe River flows to the west along the Site's southern boundary eventually discharging to Coeur d'Alene Lake, 60 miles to the west. Based on data collected at the Calder gauging station (located approximately 23 miles downstream from the Site), during spring snow melt in May, the average river flow ranges from 7,000 and 8,000 cubic feet per second (cfs). In contrast, average river flows in September range from 400 and 500 cfs. Sudden storms, especially heavy rain or snow, can cause extreme river flows and flooding during warm periods in winter and spring. River flows have been measured as high as 30,000 to 50,000 cfs at Calder, Idaho. St. Joe River levels can fluctuate more than 8 feet in stage height at the Calder Station (USGS, National River Data Base, 2008).

Historically, groundwater elevations have typically ranged from approximately 10 to 16 feet below ground surface (bgs; Hart Crowser 2000a). Potlatch measured groundwater levels in September and November 2009 from existing Site monitoring wells (including the wells that EPA installed in 2007) and four new monitoring wells that Potlatch installed in September 2009. In September 2009, depths to groundwater in the monitoring wells ranged from 8.6 to 18 feet bgs. In November 2009, depths to groundwater ranged from 8.8 to 16 feet bgs. Groundwater

contour maps for September and November 2009 are included as Figures 2-6 and 2-7, respectively (Golder 2010a). Groundwater level measurement summary tables from the 2007 and 2009 investigations are included in Appendix A.

The groundwater on the Bentcik portion of the Site may be influenced by the river, such that river water may discharge into the Bentcik property. This is demonstrated by the April 2007 groundwater level measured in MW-5 (89.87 ft), which was higher than the groundwater level measured in EMW-02 (89.3 ft) and lower than EMW-01 (89.93 ft; E & E 2007). Based on a triangulation of equipotentials among those three 2007 measurements, it appears that river water is moving into the groundwater.

Short-term hydraulic slug tests were performed by Potlatch in 2009 to approximate the hydraulic conductivity of the aquifer beneath the Site (Golder 2010a; slug test results are included in Appendix A). Ultimately, the results of the slug test were to be used to evaluate the need and implementability for a long-term pump test. Slug tests were performed on seven monitoring wells during the period of September 8 through September 10, 2009. Overall, the total range in hydraulic conductivities was 0.31 to 5.16 feet per day (ft/day); however, the h/h0 versus time graph for HC-1R, with the highest hydraulic conductivity, has a noticeable dip at approximately t50, indicating that the analysis may not be as accurate. Without considering HC-1R, hydraulic conductivity values range from 0.31 ft/day to 3.59 ft/day. Spatially, the highest hydraulic conductivities occurred in monitoring wells GA-2, GA-3, and GA-4 located at the western end of the Site, with the highest hydraulic conductivity measured at GA-2 (3.59 ft/day). The wells located on the eastern end of the property had lower hydraulic conductivities ranging from 0.31 ft/day (EMW-01) to 1.74 ft/day (EMW-02).

2.1.6 Surrounding Land Use and Populations

The Site is within the narrow St. Joe River Valley, which is in the St. Joe National Forest District of the Idaho Panhandle National Forests. There are generally steep mountains to the north and south of the St Joe River, including directly north of Highway 50 from the Site. Land uses in the area around the Site are largely rural and recreational, which is consistent with its location surrounded by a national forest. The St. Joe River is a popular recreational waterway that is often used for kayaking, rafting, and fishing. There are several areas of commercial land nearby, including a motel and recreational vehicle park across the river.

2.1.7 Sensitive Species and Environments

The St. Joe River is used for wildlife habitat, recreation, and drinking water for downstream residents. According to the Idaho Administrative Procedures Act (IDAPA) 58.01.02.110.11, the segment of the St. Joe River adjacent to the Avery Landing Site that could be impacted by contaminants found at the Site has the following designations: special resource water, domestic water supply, primary contact recreation, cold water communities, and salmonid spawning (E & E 2007).

The draft Potlatch EE/CA describes the sensitive species in the area as follows:

Historically, native game fish in the river include westslope cutthroat trout (*Oncorhynchus clarki lewisi*), bull trout (*Salvelinus confluentus*), and mountain whitefish

(*Prosopium williamsoni*; Idaho Department of Fish and Game). This section of the St. Joe River has been designated as a catch-and-release fishing area for cutthroat trout. Other species of fish found in the river include bull trout, rainbow trout (*O. mykiss*) and Dolly Varden (*S. malma*).

The Site is located within Region 1, Hunting Unit 6 (Idaho Department of Fish and Game). In this management unit, the Department issues hunting permits for the following big game: Deer, Elk, Bear, Moose, and Wolves. In addition to big game, smaller game such as rabbits and furbearers are hunted as well as a wide variety of birds (water fowl and upland birds). (Golder 2010a)

2.1.8 Meteorology

This climate summary was prepared from data recoded at the nearby Avery Ranger Station Number 2 from 1968 through 2009. Avery has an average annual high temperature of 56.0 degrees Fahrenheit (°F) and an average low temperature of 35.2 °F. The warmest months are July and August, when average high temperatures are 83.1 and 83.8 °F, respectively, and average low temperatures are 49.4 and 49.2 °F, respectively. The coldest month is January, with an average high temperature of 30.3 °F and an average low temperature of 20.7 °F (WRCC 2010b).

The average annual precipitation from 1968 through 2009 was 37.31 inches. December and January receive the highest precipitation, with averages of 5.02 and 5.89 inches, respectively. July and August are the driest months with average precipitation amounts of 1.25 and 1.21 inches, respectively. Avery receives an annual of 75.6 inches of snowfall each year, with most falling in December and January (20.0 and 29.5 inches, respectively). Snowfall has been recorded from October though April (WRCC 2010b).

Average annual wind speed in the region (at the Coeur d'Alene airport) from 1996 to 2006 is 7.3 miles per hour (mph), with a range of 6.6 mph in August to 8.3 mph in March (WRCC 2010a).

2.2 Regulatory History and Previous Investigations

The earliest reported observation of petroleum discharges to the St. Joe River from the Avery Landing Site were documented in a letter from the Idaho Department of Health to Milwaukee Railroad in 1970. The letter reports Forest Service District Ranger observations that "at times oil coming from the Milwaukee Railroad roundhouse covers as much as one-third of the river surface in the vicinity of the spill" (Van't Hul 1970).

2.2.1 IDEQ Investigations, Late 1980s

In the late 1980s, the State of Idaho Division of Environmental Quality of the Idaho Department of Health (now IDEQ) began to investigate the Site because of the presence of visible petroleum product discharges to the St. Joe River from the Site riverbank. The investigation included installation of several monitoring wells and test pits in the late 1980s and early 1990s. These investigations determined that free product was a mixture of diesel and heavy oil and was present at the water table throughout the Site, with product thicknesses exceeding four feet in some locations.

2.2.2 EPA Site Inspection, 1992

In 1992, URS Consultants, Inc., (URS) performed a site investigation at the Site as a contractor to EPA. URS collected soil, groundwater, and surface water samples from the Site and vicinity for laboratory analysis. The results indicated the presence of contaminants, including volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, and PCBs. Benzene, arsenic, and lead were detected in an on-Site monitoring well at concentrations that exceeded the federal Maximum Contaminant Levels (MCLs; URS 1993).

2.2.3 Potlatch Product Recovery System, 1994

In 1994, Potlatch installed a product recovery system at the Site, pursuant to an IDEQ Consent Order. The system included several trenches installed near the bank of the St. Joe River. Groundwater and product were pumped from these trenches and then sent through an oil/water separator. Recovered product was stored in an on-Site AST for later off-Site disposal. Recovered groundwater was pumped underneath Highway 50 and re-injected into the ground through an approximately 360-foot long re-infiltration trench installed north of the road. It is not known whether re-injection of the recovered groundwater north of the road impacted the extent and distribution of contaminants at the Site. The system operated until approximately 2000 and recovered a total of 1,290 gallons of product (Farallon 2006). Although this system is no longer in operation, the AST used to store recovered product remains on Site.

2.2.4 Potlatch Product Containment Barrier, 2000

By 2000, despite the operation of the product recovery system, product discharges from the Site were still observed on the banks of the St. Joe River. Under direction from IDEQ, Potlatch installed a restraining barrier along the bank in 2000 to help prevent free product from reaching the river. Potlatch excavated material away from the bank, installed a PVC liner to act as a barrier wall to prevent product discharges to the river, and backfilled with sand, gravel, and riprap along the bank. Potlatch also installed a series of product recovery trenches and wells to recover any free product that might collect against the barrier (Farallon 2006). With the new restraining barrier, Potlatch proposed to recover additional free product if product was present in Site recovery wells at a thickness of 0.05 feet (0.6 inches) or greater. Potlatch continued to monitor the monitoring wells on Site for free product, but the company never operated the product recovery system again (Cundy 2007).

2.2.5 Potlatch LNAPL Discharge Maintenance, 2005 to Present

Beginning in 2005, IDEQ continued to observe product discharges to the St. Joe River originating from the Site. IDEQ recommended that Potlatch place booms in the river to contain the discharges (Golder 2010a). Although the booms were supposed to be deployed and maintained consistently while any discharges were present, actual boom deployment was intermittent and incomplete. On multiple occasions beginning in 2005, IDEQ and EPA observed LNAPL discharges to the river with no booms in place. Additionally, EPA has observed oil "blooms" rising from the river bed several feet away from the river bank. Furthermore, Potlatch's use of the booms was not subject to a comprehensive containment and LNAPL recovery plan or a schedule agreed upon with any agency.

2.2.6 EPA Removal Assessment, 2007

In a letter dated September 11, 2006, IDEQ requested the assistance of EPA to investigate the Site and the continued petroleum discharges into the St. Joe River (IDEQ 2006). In 2007, EPA performed a removal assessment at the Site to investigate the discharges of petroleum to surface waters and shorelines of the United States in contravention of the Clean Water Act (CWA)and potential releases of CERCLA hazardous substances and other environmental impacts related to the Site's past use as a railroad roundhouse, maintenance, and refueling facility. EPA installed 13 soil borings, of which six were completed as monitoring wells. The investigation focused on the eastern area of the Site, including portions of both the Potlatch and Bentcik properties.

EPA observed petroleum hydrocarbons in surface water, groundwater, and subsurface soil throughout the Site at levels that exceeded applicable state regulatory standards. Petroleum was observed floating on groundwater in monitoring and recovery wells with measurable product thicknesses up to 0.88 feet. Subsurface soils collected from soil borings were saturated with petroleum. EPA observed active petroleum discharges and "blooms" to the St. Joe River in contravention of the CWA and state regulations. An approximately 200-feet stretch of the Site's river bank contained evidence of past petroleum discharge activity, including oil staining on rip rap at the water level and oiled vegetation. Analytical results confirmed the presence of diesel and heavy oil (bunker C), which was consistent with historical documentation about the nature of the petroleum releases. EPA's investigation also indicated the area of the free product plume was larger than previously estimated.

Subsurface soil and groundwater samples collected from the Site contained several CERCLA hazardous substances (including carcinogenic polycyclic aromatic hydrocarbons [PAHs]) that exceeded applicable state and federal guidelines. Several metals (arsenic, iron, lead, manganese, and mercury) also exceeded applicable guidelines, but some of these metals may be naturally elevated in the region. The PCB Aroclor-1260 was detected in several Site soil samples and in a sample of the petroleum product, and Aroclor-1260 exceeded the state guideline in one groundwater sample. The on-Site domestic well, which is downgradient of the Site's LNAPL plume area, contained concentrations of Site contaminants, including anthracene, diesel-range organics (DRO), and arsenic.

In addition to the visible petroleum product discharges to the St. Joe River, a sample of surface water contained four PAHs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, and chrysene) at concentrations that exceeded Idaho Risk Evaluation Manual guidelines, and the PAH benzo[a]pyrene also exceeded the federal ambient water quality criteria. When compared to sediment guidelines, PAH compounds detected in the soil samples exceeded several consensus-based sediment quality guidelines (E & E 2007).

2.2.7 Draft Potlatch EE/CA, 2009 to 2010

In 2008, Potlatch entered into an ASAOC (CERCLA Docket No. 10-2008-0135) with EPA to complete an EE/CA, a Biological Assessment (BA) and a CRE for the Avery Landing Site. Work associated with the EE/CA was completed by Golder as a consultant to Potlatch. As a part of the EE/CA, Potlatch agreed to perform additional characterization field work at the Site. The scope of work for the additional field work was outlined in a work plan dated January 21, 2009 (Golder 2009).

The field work for the EE/CA was completed in the late summer and fall of 2009 and included the following tasks:

- Collection of subsurface soil samples from five boreholes that were installed at the northeastern portion of the Site, near the former AST location and Highway 50;
- Excavation of six test pits from the LNAPL plume area for collection of contaminated Site soils for soil wash treatability testing;
- Excavation of eight test pits, with the collection of associated subsurface soil samples, to characterize the western half of the Site;
- Installation of four additional monitoring wells at the Site, followed by water elevation gauging, free product observations, and groundwater sampling; and
- Collection of sediment and surface water samples from eight locations along the banks of the St. Joe River adjacent to the Site.

The field work included the sampling of subsurface soil (from test pits and boreholes), groundwater (from existing and four newly installed monitoring wells), LNAPL (from groundwater wells and surface water discharges), sediment, and surface water. LNAPL was observed in subsurface soil, groundwater, sediment, and surface water. Analytical results indicated that DRO/heavy oils, SVOCs (including carcinogenic PAHs), PCBs, VOCs, and metals were detected in subsurface soil and sediment. DRO/heavy oils and carcinogenic PAHs were detected in groundwater. Surface water contained carcinogenic and non-carcinogenic PAHs and metals.

Based on observations recorded during field work, Potlatch updated the estimated extent of the LNAPL plume. Potlatch also observed evidence of buried debris and trash in the western half of the Site.

A component of the Potlatch EE/CA investigation was a treatability study to evaluate soil washing as a potential treatment method for petroleum-contaminated soil. The results of the treatability study indicated that soil washing could effectively achieve removal efficiencies of 96 to 97 percent (%) for DRO and heavy-oil range hydrocarbons (ART 2009).

2.2.8 Cultural Resources Evaluation and Biological Assessment

Golder performed a Cultural Resources Evaluation (CRE) of the Site for Potlatch (Golder 2010b). Applied Archaeological Research, Inc. (AAR), a START-subcontracted archaeology and cultural resources firm, reviewed the Potlatch CRE report and found it to be deficient (AAR 2010b). EPA subsequently completed a CRE of the Site (AAR 2010a). EPA's review of the Potlatch CRE and EPA's own CRE report are available as separate documents.

A biological assessment of the impacts of the planned removal action will be performed once a removal alternative is selected.

2.3 Previous Removal Actions

There have been no previous removal actions conducted under the authority of CERCLA or the CWA at the Site.

2.4 Source, Nature, and Extent of Contamination

2.4.1 Location of Contaminants

A petroleum plume of heavy oil and diesel is present in subsurface soil and groundwater and is migrating toward, and discharging to, the St. Joe River. In addition to this petroleum-based LNAPL plume, organic contaminants (e.g., PAHs, VOCs, and PCBs) and metals are present in subsurface soil and groundwater at the Site. The oil and diesel were likely released during historical Site activities as a railroad roundhouse, maintenance, and fueling facility. Many of the contaminants are also likely related to the LNAPL plume (especially the PAHs), and other contaminants are likely related to other historical Site activities.

The aerial extent of the LNAPL plume area has been monitored and estimated during previous investigations and cleanup activities performed on behalf of Potlatch. Figure 2-8 presents a summary of the estimated LNAPL plume area in 2000 (Hart Crowser 2000b). Figure 2-8 also includes the maximum LNAPL levels recorded in each Site monitoring well and piezometer as compiled for the 2007 EPA removal assessment (E & E 2007).

The investigations performed by EPA in 2007 (E & E 2007) and Potlatch in 2009 (Golder 2010a) included sampling of subsurface soil, and geologists recorded observations of any petroleum product observed in subsurface soil samples. Table 2-1 presents a summary of the observations of petroleum in subsurface soil from soil boreholes and test pits in 2007 and 2009. Copies of borehole logs from these investigations are included in Appendix B. This data is presented on Figure 2-9, which also presents the estimates of the extent of the LNAPL plume from 2000 (Hart Crowser 2000b), 2007 (EPA; E & E 2007), and 2009 (Potlatch; Golder 2010a). In addition to the main LNAPL plume area, petroleum was also observed in subsurface soil from three discrete locations to the west, including test pits TP-03 and TP-06 and the borehole for monitoring well GA-3.

Table 2-2 presents a summary of LNAPL observations recorded in monitoring wells during the 2007 EPA (E & E 2007) and 2009 Potlatch (Golder 2010a) investigations. The data was obtained from groundwater monitoring data obtained from each report (Appendix A). LNAPL was observed in several of monitoring wells in the estimated petroleum plume area. In several of the wells, the specific thickness of the monitoring wells could not be determined. In 2007, the thickness of LNAPL was observed as high as 0.88 feet in monitoring well HC-4. In 2009, LNAPL was observed as high as 3.73 feet in MW-11, although it is not clear how representative this measurement is because no water was detected at the bottom of the well. Monitoring well locations where free product was observed in 2009 are indicated on Figure 2-10.

This LNAPL plume area (Figures 2-9 and 2-10) extends from the former AST area in the northeast (north of Highway 50) to the south and west towards the St. Joe River. Major portions of the LNAPL plume area are on both the Bentcik (Section 15) and Potlatch (Section 16) properties. The southern boundary of the LNAPL plume area is contiguous with the bank of the St. Joe River. In addition to the contiguous petroleum plume area, smaller discrete areas of petroleum contamination were observed downgradient (i.e., to the west) of the plume area at TP-03, TP-06, and GA-3.

In addition to the LNAPL, a number of individual chemical compounds, including carcinogenic PAHs, PCBs, VOCs, and metals, have been detected at the Site. Many of these detections are associated with the LNAPL plume area, although some of the compounds are also present in the western portion of the Site, including test pits TP-02, TP-04, and TP-06.

2.4.2 Quantity of Contaminated Area

The LNAPL plume area and the discrete locations to the west (TP-03, TP-06, and GA-3) have an estimated area of approximately 5 acres. LNAPL-contaminated soil is encountered at depths ranging from 3 to 16 feet bgs, and the contaminated soil extends as deep as 17 to 20 bgs. Cross sections and a three-dimensional image were developed using AutoCAD software. The cross sections are presented on Figures 2-11, 2-12, and 2-13. Using this information, the volume of the LNAPL plume area and the three discrete locations were calculated to be approximately 43,000 cubic yards. To yield a conservative estimate, a factor of 10% was added, increasing the volume to approximately 47,000 cubic yards.

2.4.3 Targets Potentially Affected by the Site

Potential targets for contaminants at the Site include current or potential future residents or visitors to the Site. Currently, a seasonal cabin is located on the Bentcik property (Section 15 area). The Potlatch portion of the Site (Section 16) has been used previously for seasonal and year-round residences and could be used again for residential purposes in the future. A domestic well was installed downgradient of the LNAPL plume area and was used to supply drinking water to residences on the Potlatch property. Although Potlatch reportedly disconnected and stopped using this domestic well (Golder 2009), the well is not known to have been properly abandoned thus it could presumably be used again as a drinking water supply. Residents, workers, or visitors to the Site could be exposed to subsurface contamination in the event of any subsurface disturbance through future construction work or improvements.

LNAPL discharges to sediment and surface water are ongoing. Potential targets include downstream human populations who may use the St. Joe River for recreation (i.e., swimming or fishing) or for drinking water. Ecological receptors in sediment and surface water are also potential targets of the Site contamination.

2.5 Analytical Data

This EE/CA relies primarily on analytical data gathered during the 2007 EPA removal assessment (E & E 2007) and the 2009 EE/CA-related field investigation performed on behalf of Potlatch by Golder (Golder 2010a).

The EPA 2007 removal assessment included the collection of subsurface soil, groundwater, surface water, and LNAPL samples. EPA installed 13 soil borings in the area of the LNAPL plume area. Six of the borings were completed as monitoring wells. Subsurface soil samples were collected from the boreholes. Groundwater samples were collected from the newly installed monitoring wells and several existing monitoring wells. An LNAPL sample was collected from one of the existing wells. Three surface water samples were collected, including from areas near ongoing discharges. All samples were analyzed for VOCs, SVOCs, PCBs, total petroleum hydrocarbons (diesel and heavy oil range), and metals. Table 2-3 presents a summary of the samples collected for the EPA 2007 removal assessment, and the sample locations are indicated

on Figure 2-14. Analytical data summary tables from the EPA 2007 removal assessment are presented in Appendix C. The results of the EPA removal assessment are summarized in Section 2.2.6.

Samples collected from the 2009 field activities performed by Potlatch are summarized in Table 2-4. Potlatch collected samples of surface and subsurface soil, groundwater, LNAPL, surface water, and sediment. Six test pits were excavated in the area of the petroleum plume for the purpose of collecting soil samples (combined into three composite samples) for treatability testing. An additional seven test pits were excavated in the western portion of the Site. Five boreholes were installed in the area of the former UST location north of the present Highway 50. Four monitoring wells were installed downgradient of the petroleum plume area; groundwater samples were collected from new and existing wells, and LNAPL was collected from wells in the LNAPL plume area. Sediment and surface water samples were also collected from seven locations along the bank of the St. Joe River. For the 2009 Potlatch field work, Figure 2-15 indicates test pit locations, Figure 2-16 indicates monitoring well and soil borehole locations, and Figure 2-17 indicates sediment and surface water sample locations.

All 2009 Potlatch samples were analyzed for NWTPH-DX, PCBs, PAHs, and TAL metals, and a subset of the samples were also analyzed for SVOCs and VOCs, as indicated in Table 2-4. The analytical data summary tables for the Potlatch samples are included in Appendix D. Analytical data from the Potlatch EE/CA was reviewed and assessed by a START chemist and found to be usable for this EPA EE/CA. Copies of the START data validation memoranda for the Potlatch data are included in Appendix D. The results of the 2009 Potlatch field work are summarized in Section 2.2.7.

Based on the results of the 2007 and 2009 field sampling events, the following types of chemical compounds were detected in Site media, as summarized below.

Subsurface Soil: DRO, heavy oil-range organics, PCBs, carcinogenic PAHs, non-carcinogenic PAHs, SVOCs, VOCs, metals.

Groundwater: DRO, heavy oil-range organics, PCBs, carcinogenic PAHs, non-carcinogenic PAHs, and other metals.

Sediment: DRO, heavy oil-range organics, PCBs, carcinogenic PAHs, non-carcinogenic PAHs, VOCs, metals.

Surface Water: carcinogenic PAHs, non-carcinogenic PAHs, metals.

2.6 Streamlined Risk Evaluation

2.6.1 Conceptual Site Model

Human Health

The purpose of a conceptual site model (CSM) is to provide a graphic representation of Site conditions as they relate to human health and ecological risk evaluation. A CSM is prepared by

evaluating historical use of a site and surrounding areas. Environmental conditions at a site, including ground conditions and hydrogeology, are also evaluated. The model is used to facilitate selection of removal alternatives and to evaluate the effectiveness of removal actions in reducing human and environmental exposure. The CSM for the Avery Landing Site:

- Identifies the primary source of contamination in the environment (e.g., historical Site activities related to railroad maintenance, refueling, and petroleum spills);
- Shows how chemicals at the original point of release might move in the environment (e.g., discharges to surface water);
- Identifies the different types of human and ecological populations (e.g., recreational visitors, residents, aquatic species) that might come into contact with contaminated media; and
- Evaluates the possibility of those receptors incorporating the contaminants into their bodies by identifying potential exposure pathways (e.g., ingestion of contaminated soil, inhalation of particulates, dermal contact with contaminated soil) that may occur for each human or environmental population.

In a risk evaluation, exposure pathways are the means by which hazardous substances, pollutants, or contaminants move through the environment from a source to a point of contact with people or ecological receptors. An exposure pathway must be considered complete for exposure and subsequent risks to occur. A complete pathway must include the following elements (EPA 1989):

- A source and mechanism for release of constituents;
- A transport or retention medium;
- A point of potential contact (exposure point) with the affected medium; and
- An exposure route.

If one of the above elements is missing, the exposure pathway is not considered complete and is not evaluated in the risk evaluation. The CSM for the Avery Landing Site is presented in Figure 2-18.

Ecological Receptors

The CSM in Figure 2-18 includes a preliminary ecological CSM for the Site. Fish, benthic invertebrates, and other aquatic organisms in the St. Joe River may be exposed to Site-related chemicals through direct contact with contaminants of concern (COCs) or with water and sediments contaminated by COCs; ingestion of COCs or water or sediments contaminated by COCs; and ingestion of contaminated food (e.g., sediment- or soil-dwelling insects or vegetation). Wildlife species that obtain all or part of their food from the St. Joe River may be exposed to Site-related chemicals from ingestion of COCs or from water or sediment contaminated by COCs, or by ingestion of contaminated food (other plant or animal species that have been contaminated by COCs). Terrestrial wildlife species could be exposed to chemicals in surface water from the St. Joe River while drinking; however, drinking typically is an insignificant route of exposure for wildlife, especially when chemical concentrations in surface water are generally low, as they are at this Site (see Section 2.6.3.6).

2.6.2 Streamlined Human Health Evaluation

The human health screening level evaluation provides an initial indication of the possibility of adverse human health effects due to exposure to Site-related contamination. Information on the exposure pathways and screening values used for evaluation is presented below, followed by a discussion of the screening results.

2.6.2.1 Receptors and Exposure Routes

Human receptors at the Site may be exposed to Site-related contamination via contact with soil, surface water, groundwater, indoor air, or fish or other biota (see CSM; Figure 2-18). Routes of exposure include ingestion, dermal absorption, and inhalation. A detailed description of all complete exposure pathways and receptors is provided below.

The banks of the St. Joe River are very steep and the current moves swiftly. Additionally, the river bank adjacent to the LNAPL plume area is covered in rip rap. Therefore, it is unlikely that residents or recreational users would contact sediment. Therefore, sediment exposure was not considered to be a complete exposure pathway and is not evaluated for this human health evaluation.

Residents

The Bentcik portion of the Site includes a cottage that is currently occupied seasonally as a vacation home. Seasonal cabins and year-round residences were once located on Site, and there are currently no administrative or legal controls (i.e., institutional controls) that minimize the potential human exposure to contamination by limiting land or resource use at the Site. Therefore, a full-time resident was considered for this evaluation. Residents may be exposed to Site-related contamination in soils via incidental ingestion, dermal contact, or inhalation of soil particulates. In addition, a groundwater supply well is currently located on the Site. While this domestic well has been disconnected from the trailer site connections and is reportedly not in use, there are currently no institutional controls preventing future use of this well, or the installation of another domestic well, as a source of household water. Therefore, exposure to groundwater via ingestion and dermal contact was considered. In addition, volatile chemicals may migrate from the subsurface soils, groundwater, and LNAPL into homes, resulting in inhalation exposure to volatile chemicals.

IDEQ has designated the St. Joe River as a source of water for domestic use (IDEQ 2010). While there are no public water supply intakes in the area of the Site, the possibility exists that future residents may draw water from the river for household use. For this reason, surface water ingestion and dermal contact is considered a complete exposure pathway. In addition, residents may ingest contaminated fish caught from the St. Joe River.

Recreational Users

It is assumed that a recreational user visits the Site occasionally to fish or hunt, and hikers and trespassers may also visit the Site. Typically a recreational user is exposed to fewer media than a permanent resident. However, the Bentcik family currently uses the home on the Site when they visit the area for recreation. Therefore, all exposure pathways considered for the resident are also considered for a recreational user, with the exception of subsurface soil direct contact. However,

the exposure frequency (how often the Site is used for recreation) would be considerably less than the exposure frequency for a resident.

2.6.2.2 Screening Values

For this evaluation, the maximum value detected at the Site in each media was compared to media-specific risk-based screening levels. Details on the selection of appropriate screening values are provided below.

Soils

Initial Default Target Levels (IDTLs) published in the Idaho Risk Evaluation Manual (IDEQ 2004) were used as screening values for Site soils for this EE/CA. IDTLs are risk-based concentrations derived from standardized equations that combine default exposure assumptions with EPA toxicity data. The IDTLs are considered to be protective for humans over a lifetime and meeting these levels allows unrestricted (residential) use of the property. IDTLs for soil are the lowest of the following concentrations:

- Surficial soil concentrations protective of exposures via groundwater ingestion at EPA MCL or equivalent risk-based concentrations at the downgradient edge of the source,
- Subsurface soil concentrations protective of exposure via groundwater ingestion at MCL or risk-based concentrations at the downgradient edge of the source,
- Subsurface soil concentrations protective of exposure via indoor inhalation of vapors emanating from soil for a residential scenario (e.g., child or age-adjusted receptor), and
- Surficial soil concentrations protective of combined ingestion, dermal contact, and outdoor inhalation exposures for a residential scenario (IDEQ 2004).

For several chemicals, IDTLs were not available. For these chemicals, EPA's *Regional Screening Levels for Chemical Contaminants at Superfund Sites* (EPA 2010) for residential exposure were used for screening purposes. In the case of petroleum hydrocarbons (diesel range organics and heavy oils), IDTLs or Regional Screening Levels (RSLs) were not available.

Any building or excavation of the Site may result in subsurface soils being brought to the surface. Therefore, subsurface and surface soils were considered together for this evaluation.

Groundwater

IDTLs were also used as screening values for groundwater. IDTLs for groundwater are the lowest of the following concentrations:

- The maximum value detected for chemicals having MCLs or calculated values for ingestion of water by either a child, an adolescent, an adult, or an age-adjusted individual in a residential scenario, or
- Groundwater concentrations protective of indoor inhalation for a residential scenario (e.g., child or age-adjusted receptor. (IDEQ 2004)

For several chemicals, groundwater IDTLs were not available, so EPA RSLs were used for screening purposes. In the case of petroleum hydrocarbons (DRO and heavy oils), IDTLs or RSLs were not available.

Surface Water and Consumption of Aquatic Organisms

As stated previously, IDEQ has designated the St. Joe River as a source of water for domestic use. Several screening metrics were used for evaluation of surface water. First, IDEQ's Water Quality Standards (IDAPA 58.01.02) were used. There are two water quality standards based on human consumption. The first standard is based on the assumption that surface water is used as a domestic water supply and that organisms living in the surface water may be consumed. The second value is based on consumption of organism only (recreational use). Both values were developed for the protection of human health and are based on exposure and toxicity information

2.6.2.3 Screening Evaluation Results

Maximum concentrations of chemicals detected in each media were compared with health-based screening levels. Tables 2-5, 2-7, and 2-8 provide the maximum detected value, the screening criteria, and the result of the screening for soils, groundwater, and surface water, respectively. In addition, the frequency of exceedance (FoE) of screening levels is included to provide an indication of the extent of contamination. Results for each medium are provided below.

Soils

Table 2-5 provides soil screening results for the human health evaluation. Residents and recreational users may be exposed to Site soils via incidental ingestion, dermal contact, inhalation of particulates, or inhalation of volatile chemicals emanating from subsurface soils into structures. Maximum soil concentrations exceeded screening levels for a number of chemicals, including some metals, VOCs, PAHs, and SVOCs. Of particular concern is the number of samples that exceeded screening levels for benzo(a)pyrene (a known carcinogen). Results indicate benzo(a)pyrene screening level concentrations were exceeded in 11 of 56 samples. Other carcinogenic PAHs, including benzo(a)anthracene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene, also exceeded criteria but at a much lower frequency (1 of 56 samples for each). Three non-carcinogenic PAHs also exceeded screening levels: naphthalene (7 of 56 samples), 2-methylnaphthalene (8 of 56 samples), and 1-methylnaphthalene (1 of 56 samples).

Several VOCs, including some known carcinogens, exceeded screening levels, including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, sec-butylbenzene, benzene, xylenes, and trichloroethene. The FoE for the volatile organics ranged from one to three exceedances.

PCBs were detected in several Site soil samples, but the concentrations did not exceed screening levels.

If the maximum detected metal concentration exceeded screening criteria, the maximum concentration was compared to background levels developed for the nearby Upper Coeur d'Alene River Basin (URS Greiner 2001). This was the case for antimony, arsenic, iron, lead, manganese, and mercury. The arsenic screening criterion was exceeded in all samples (FoE 38/38). However, only three samples exceeded background concentrations. Similarly, eight of 38 lead samples exceeded screening values, while only one sample exceeded background levels. In the case of iron, magnesium, and mercury, none of the sample concentrations was higher than the background concentration, while in 22 of 38 samples manganese exceeded screening levels, and in 27 of 38 samples mercury exceeded screening levels. Concentrations in one of 38 samples

exceeded screening values for antimony, while 11 samples exceeded background. Table 2-6 provides a comparison of maximum concentrations of metals to background concentrations. The data suggests that metals concentrations may be naturally elevated at the Site.

The results of the soil screening evaluation indicate that numerous chemicals exceeded health-based screening criteria.

Groundwater

Table 2-7 provides groundwater screening results for the human health evaluation. Residents and recreational users may be exposed to groundwater via ingestion, dermal contact, and inhalation of volatile chemicals emanating from groundwater into structures. Exceedances were noted for Aroclor 1260, several carcinogenic and non-carcinogenic PAHs, SVOCs, and metals. The carcinogenic PAHs benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene exceeded criteria in one to two samples out of 21 samples analyzed. While the FoE was low for the carcinogenic PAHs, the maximum detected values where far greater than the health-based screening level, particularly for benzo(a)anthracene (1.6 micrograms per liter [μ g/L] vs. 0.077 μ g/L). Two non-carcinogenic PAHs also exceeded screening levels, including 1-methylnaphthalene (5 of 21 samples) and 2-methylnaphthalene (1 of 21 samples). The SVOCs 4,6-dinitro-2-methylphenol (1 of 5) and n-nitrosodiphenylamine (1 of 9) exceeded criteria, as did arsenic (10 of 21), cobalt (2 of 21), iron (13 of 21), lead (1 of 21), and manganese (13 of 21).

The results of the groundwater screening evaluation indicate that numerous chemicals exceeded health-based screening criteria.

Surface Water and Aquatic Organisms

Table 2-8 provides surface water screening results. The St. Joe River is considered a domestic use water body. Thus, residents and recreational users may be exposed to surface water via ingestion, dermal contact, and ingestion of aquatic organisms. Free product is present in surface water, which violates state water quality regulations. Surface water domestic water supply criteria were exceeded for the carcinogenic PAHs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and chrysene, with an FoE of one to two samples out of 11 analyzed. Screening criteria based on recreational use of the Site were exceeded for two carcinogenic PAHs, including benzo(a) pyrene and benzo(b)fluoranthene, with an FoE of one sample each. Surface water screening values based on consumption of aquatic organisms only were not exceeded.

2.6.2.4 Uncertainties

Sources of uncertainty in this streamlined human health risk evaluation include:

Risk-based screening soil values are not available for some chemicals detected at the Site, including 4-isopropyltoluene, N-propylbenzene, 2-hexanone, bis(2-chloroethoxy)methane, and carbazole. Groundwater screening levels were not available for carbazole in groundwater. However, because most of these chemicals were detected infrequently and were found at low levels they are unlikely to pose a threat to human health at the Site.

- Surface water standards for recreational use (including ingestion of aquatic organisms) were not available for the majority of chemicals. These chemicals could not be screened for this evaluation. However, humans are unlikely to contact surface water on a regular and sustained basis, and the absence of surface water standards for some of the chemicals detected in Site surface waters suggests these chemicals are unlikely to have an appreciable effect on the risk evaluation conclusions.
- The detection limits were above screening values for some analytes in some samples, while other samples had detection limits below the screening level. This was the case with PAHs in soils. However, for these COCs, at least some of the samples with detection limits below the screening level exhibited concentrations above the screening level; thus, these chemicals were selected as COCs. The detection limit variations may impact the FoE but not the selection of COCs, and thus the impact on the risk evaluation is minimal.
- The data suggests that metals concentrations may be naturally elevated at the Site. It is not clear how representative the background concentrations from the Upper Coeur d'Alene River Basin (URS Greiner 2001) are to Site conditions.

2.6.2.5 Conclusions of the Human Health Risk Evaluation

Soil, groundwater, and surface water show evidence of being impacted by Site-related contamination. Numerous analytes in all media exceed health-based screening criteria, indicating the potential for adverse health effects due to exposure to Site-related contamination. In particular, carcinogenic PAHs exceeded screening criteria for all media and some metals exceeded screening levels in soils and groundwater.

2.6.3 Streamlined Ecological Risk Evaluation 2.6.3.1 Site Ecological Characteristics

The Avery Landing Site is located along the north shoreline of the St. Joe River in Avery, Idaho. The Site is 640 meters long from east to west and extends inland from the river for a distance of 40 to 100 meters. The Site has been used for commercial and transportation (railroad) purposes for many decades and is highly disturbed. Most of the Site is covered by gravel or dirt roads and surfaces and mowed areas. One seasonal residence, a shed (used to store absorbent boom), an AST, and drums of IDW from EPA's 2007 removal assessment are currently located on the Site. As a result of its disturbed nature and ongoing human use, the Site has limited value as habitat for plants and wildlife.

The St. Joe River forms the southern boundary of the Site. According to IDEQ (2010), the St. Joe River is considered a special resource water. It supports cold-water fish communities and provides spawning habitat for salmon and trout. In addition, the river near the Site is considered suitable for primary contact recreation and domestic water supply. Overall, the river appears to be a high-quality aquatic habitat capable of supporting a wide variety of benthic invertebrates and fish as well as wildlife species that use aquatic habitats to satisfy their food and habitat needs. Wildlife species expected to use the St. Joe River near the Site include waterfowl, wading birds, shorebirds, and fish-eating mammals. The bull trout is a federally endangered species that is found in the St. Joe River. Additionally, State of Idaho species of concern found in the river include the bull trout, Westslope cutthroat trout, and Coeur d'Alene salamander.

2.6.3.2 Ecological Receptors

As noted above, because the Site is disturbed and experiences ongoing human use, its value as habitat for plants and wildlife is limited. Some common terrestrial wildlife species may visit the Site, but the Site does not provide adequate cover and food to support a diverse and abundant wildlife community. In contrast, the St. Joe River is considered a high-quality aquatic habitat and likely supports diverse and abundant communities of benthic invertebrates, fish, and other aquatic organisms, and provides habitat and food for semi-aquatic wildlife.

2.6.3.3 Preliminary CSM

Figure 2-18 provides a preliminary ecological CSM for the Site featuring the ecological receptor groups identified in the previous section. Aquatic vegetation, fish, benthic invertebrates, and other aquatic organisms in the St. Joe River may be exposed to Site-related chemicals in the following ways: (1) direct contact with and ingestion of contaminants at product discharges; (2) direct contact with and ingestion of contaminated water and sediment; and (3) through the food chain (i.e., by consuming plant and animal materials that have accumulated Site-related chemicals). Wildlife species that obtain all or part of their food from the St. Joe River near the Site may be also exposed in these ways. Exposure of terrestrial plants and wildlife to Site-related chemicals is possible in areas along the shoreline where oiled vegetation has been observed, but these areas are limited in extent.

2.6.3.4 Assessment Endpoints and Measures

In ecological risk evaluations, assessment endpoints are expressions of the ecological resources that are to be protected (EPA 1997). An assessment endpoint consists of an ecological entity and a characteristic of the entity that is important to protect. According to EPA (1998), assessment endpoints do not represent a desired achievement or goal, and should not contain words such as protect or restore or indicate a direction for change such as loss or increase. Assessment endpoints are distinguished from management goals by their neutrality (EPA 1998). Measurements used to evaluate risks to the assessment endpoints are termed "measures" and may include measures of effect (e.g., results of toxicity tests), measures of exposure (e.g., chemical concentrations in sediment), and/or measures of ecosystem and receptor characteristics (e.g., habitat characteristics; EPA 1998). Based on the Site ecology, Site-related chemicals, and preliminary CSM, the ecological resources potentially at risk at the Avery Landing Site are those associated with the St. Joe River, including aquatic vegetation, fish, benthic invertebrates, wildlife that obtain all or part of their food from the river, and terrestrial plants and animals in shoreline areas where product discharges have been observed. The assessment endpoints and measures for these receptor groups are stated below.

Aquatic Vegetation Community

<u>Assessment Endpoint</u>: Sustainability (survival, growth, and reproduction) of the aquatic macrophyte community in the St. Joe River near the Site.

<u>Measure</u>: Measured concentrations of Site-related chemicals in surface water from the St. Joe River near the Site compared with water quality standards and benchmarks.

Benthic Invertebrate Community

<u>Assessment Endpoint</u>: Sustainability (survival, growth, and reproduction) of the benthic invertebrate community in the St. Joe River near the Site.

<u>Measure</u>: Measured concentrations of Site-related chemicals in sediment from the St. Joe River near the Site compared with sediment benchmarks for effects on benthic invertebrates.

Fish Community

<u>Assessment Endpoint</u>: Sustainability (survival, growth, reproduction) of the fish community in the St. Joe River near the Site.

<u>Measure</u>: Measured concentrations of Site-related chemicals in surface water from the St. Joe River compared with water quality standards and benchmarks.

Semi-aquatic and Riparian Wildlife

<u>Assessment endpoint</u>: Sufficient rates of survival, growth, and reproduction of herbivorous, piscivorous, and benthivorous birds and mammals to sustain healthy populations along the St. Joe River near the Site.

<u>Measure</u>: None. Modeling food-chain uptake and dietary exposure for semi-aquatic wildlife is beyond the scope of this streamlined risk evaluation.

Terrestrial Riparian Plant Community

<u>Assessment endpoint</u>: Sustainability (survival, growth, and reproduction) of the shoreline terrestrial plant community at the Site.

<u>Measure</u>: None. Soil samples were not collected from shoreline areas where product discharges were occasionally observed.

2.6.3.5 Data Sources

To assess potential ecological risks, this streamlined risk evaluation uses surface water and sediment samples collected from the St. Joe River near the Site.

2.6.3.6 Surface Water Screening Results

Eleven surface water samples were collected from the St. Joe River at the Site (see Section 2.5 for sampling locations). The samples were analyzed for PAHs, other SVOCs, diesel- and oil-range organics, and selected metals. Table 2-9 lists the chemicals that were detected in at least one sample, frequency of detection, maximum detected concentration, and water quality standards and benchmarks for protection of aquatic life. State of Idaho water quality standards were used preferentially. If an Idaho standard was not available for a chemical, then an alternate surface water benchmark for that chemical was taken from Suter and Tsao (1996). Only one organic compound, benzo(a)pyrene, in one sample, was detected at a concentration in excess of its water quality standard or benchmark. Diesel- and oil-range organics were detected in two samples and one sample, respectively. There are no water quality standards for these parameters. Only one metal, manganese, exceeded its water quality standard. The manganese may be from natural sources. Overall, the surface water data suggest that petroleum contamination in

subsurface soil and groundwater at the Site may be reaching the St. Joe River, but the level of impact in the Site vicinity appears to be low.

2.6.3.7 Sediment Screening Results

Sixteen sediment samples were collected from the St. Joe River at the Site (see Section 2.5 for sampling locations). The samples were analyzed for PAHs, other SVOCs, DRO, heavy oils, PCBs, and metals. Table 2-10 lists the chemicals that were detected in at least one sample, frequency of detection, maximum detected concentration, and sediment screening levels for protection of freshwater benthos. Regional Sediment Evaluation Team (RSET 2006) screening levels for freshwater sediments in the Pacific Northwest were used preferentially. If a RSET (2006) screening level was not available, then an alternate screening level for that chemical was taken from MacDonald et al. (1999). Two metals, arsenic and lead, marginally exceeded their screening levels. Antimony greatly exceeded its screening level. It is unclear whether these metals are associated with subsurface petroleum contamination at the Site. DRO and heavy oil were frequently detected. There are no freshwater sediment standards for these parameters. Two PAHs, acenaphthene and fluorine, exceeded their respective screening levels, but only marginally. Overall, the sediment data suggest that petroleum contamination in subsurface soil and groundwater at the Site may be reaching the St. Joe River.

2.6.3.8 Uncertainties

Sources of uncertainty in this streamlined risk evaluation include:

- No ecological risk-based concentrations are available for diesel- and oil-range organics in surface water and sediment. As a result, the potential risks posed by these substances to aquatic life in the St. Joe River cannot be quantitatively assessed. However, this is not considered to be a significant shortcoming of the streamlined risk evaluation because the most toxic constituents of petroleum, PAHs, were evaluated.
- Not all chemicals detected in surface water and sediment at the Site have risk-based screening values available. For example, no benchmarks are available for most substituted benzenes, substituted phenol, and SVOCs detected in sediment at the Site (see Table 2-10 under *Other Organic Chemicals*). However, because these chemicals were detected infrequently, were found at low levels, and are not highly persistent, it seems unlikely that they would pose a significant ecological risk at the Site.
- Modeling food-chain uptake and dietary exposure of Site-related chemicals for semi-aquatic and riparian wildlife was beyond the scope of this streamlined evaluation. However, in order for potential wildlife risks at the Site to be significant, the extent of petroleum contamination in the St. Joe River would need to be large and the concentration of PAHs would need to be high. Such a situation does not appear to exist at this Site based on the available data on surface water and sediment.
- Potential risks to aquatic biota and benthic invertebrates were not assessed directly. Instead, the streamlined risk evaluation relied on comparing surface water and sediment data with standards and benchmarks. These comparisons are conservative because the standards and benchmarks are designed to be protective of the most sensitive aquatic

species. Hence, potential risks to aquatic vegetation, fish, and benthic invertebrates at the Site may have been overestimated by the measures used to evaluate these assessment endpoints.

2.6.3.9 Conclusions of Ecological Risk Evaluation

Surface water and sediment samples from the St. Joe River near the Avery Landing Site show evidence of being impacted by petroleum contamination. In particular, diesel- and oil-range organics were frequently detected in sediment and occasionally in surface water. In addition, selected PAHs in sediment and surface water exceeded risk-based concentrations. Furthermore, oiled vegetation has been observed along the shoreline in some areas.

2.6.4 Contaminants of Concern

Petroleum product is discharging to the St. Joe River in contravention of the CWA and Idaho regulations. The petroleum product is also present in subsurface soil and on the groundwater as LNAPL, where it is present in excess of State of Idaho thresholds (0.1 inch). The observations of product and LNAPL are supported by analytical data, which indicated the presence of DRO and heavy oil in Site media. Therefore, a primary COC for the Site is the petroleum.

Additionally, CERCLA hazardous substances, including carcinogenic PAHs, are present in Site media above screening levels. The results of the human health and ecological streamlined risk evaluations indicate that Site contaminants are impacting Site media. Many of these CERCLA hazardous substances, including the PAHs, may be associated with petroleum and are considered COCs. Table 2-11 summarizes the COCs that exceeded screening levels.

Table 2-1 Summary of TPH/LNAPL Observations in Boreholes and Test Pits (2007 and 2009) Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

					Visible TPH Depth
Feature ID	Investigation	Feature Type	Location	Field Observations from Borehole Logs	(feet bgs)
EMW-01	EPA 2007	monitoring well	Upgradient	None.	
				5-7, moderately strong hydrocarbon odor.	
EMW-02	EPA 2007	monitoring well	LNAPL plume area	7-9 product	7-9
			Central, downgradient of		
EMW-03	EPA 2007	monitoring well	plume area	None.	
EMW-04	EPA 2007	monitoring well	LNAPL plume area	11 - 13 Hydrocarbon sheen on groundwater. 13 - 17 Oily hydrocarbon product present on downhole tools (poor recovery in sampling tool).	11-17
EMW-05	EPA 2007	monitoring well	LNAPL plume area	9 - 11 strong hydrocarbon odor 11-13 strong hydrocarbon odor and sheen 13-15 Strong hydrocarbon odor; sheen and drops of black product in groundwater.	11-15
EMW-06	EPA 2007	monitoring well	LNAPL plume area	7 - 9 Hydrocarbon odor and sheen 9 - 11 hydrocarbon odor and black oily liquid 11-13 sand and gravel stained black with an oily liquid 13-18 soil cuttings contain an oily liquid	7-18
221711 00	21112007			7 - 9 Hydrocarbon sheen and odor on	,
ESB-01	EPA 2007	soil boring	LNAPL plume area	groundwater.	7-9
ESB-02	EPA 2007	soil boring	LNAPL plume area	None.	
ESB-03	EPA 2007	soil boring	LNAPL plume area	9 - 11 Slight hydrocarbon odor. 11 - 13 Strong hydrocarbon odor, product.	11-13
ESB-04	EPA 2007	soil boring	LNAPL plume area	3 - 5 Hydrocarbon odor and sheen. 5 - 7 Hydrocarbon odor. 7 - 9 Strong hydrocarbon odor and product.	3-9
ESB-05	EPA 2007	soil boring	LNAPL plume area	3 - 5 Hydrocarbon odor and sheen. 7 - 9 Strong hydrocarbon odor, light sheen. 11 - 13 Very dense, black oily liquid with strong hydrocarbon odor. 15 - 17 Hydrocarbon odor.	3-17
ESB-06	EPA 2007	soil boring	LNAPL plume area	7 - 9 Hydrocarbon odor. 11 - 13 Strong hydrocarbon odor and oily liquid.	11-13
ESB-07	EPA 2007	soil boring	LNAPL plume area	5 - 7 Hydrocarbon odor. 9-11 Increased hydrocarbon odor and sheen. 13-15 Hydrocarbon odor and heavy sheen/product. 15-17 Hydrocarbon odor and heavy sheen/product.	9-17

Table 2-1 Summary of TPH/LNAPL Observations in Boreholes and Test Pits (2007 and 2009) Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Feature ID	Investigation	Feature Type	Location	Field Observations from Borehole Logs	Visible TPH Depth (feet bgs)
TP-01	Potlatch 2009	Test Pit	Western Area	Petroleum-like odor begins at 10 ft bgs.	(leet bgs)
TP-01	Potlatch 2009	Test Pit	Western Area	No visibly impacted media.	
11-02	Poliateli 2009	Test Fit	Western Area	Oil odor at 11 ft bgs. Oil staining at 13 ft. bgs.	
TP-03	Potlatch 2009	Test Pit	Western Area	Sheen and oil drops on GW.	13-13.5
TP-04	Potlatch 2009	Test Pit	Western Area	No visibly impacted media.	15-15.5
11-04	Foliateli 2009	Test I it	Western Area - former rail	100 visibly impacted media.	
TP-05	Potlatch 2009	Test Pit	spur	No visibly impacted media.	
11-03	1 ottaten 2007	TCSt T It	Western Area - former rail	110 visibly impacted media.	
TP-05N	Potlatch 2009	Test Pit	spur	No observations provided.	
11 0511	1 ottaten 2009	1000110	Western Area - former rail	The deservations provided:	
TP-06	Potlatch 2009	Test Pit	spur	Odor begins at 8 ft bgs. Product at 17 ft bgs.	16-17
TP-07	Potlatch 2009	Test Pit	Western Area	No impacted media observed.	10 17
TP-08	Potlatch 2009	Test Pit	Western Area	Stained soil from 3 ft bgs to water table. Strong odor below 13 ft bgs. Oil globules on GW at 14 ft bgs.	3-14
TS-01	Potlatch 2009	Treatability Study Test Pit	LNAPL Plume Area	Odor on samples beginning at 10 ft bgs. Oil beginning at 14 ft bgs.	14-15
TS-02	Potlatch 2009	Treatability Study Test Pit	LNAPL Plume Area	Odor beginning at 8.5 ft bgs.	
TS-03	Potlatch 2009	Treatability Study Test Pit	LNAPL Plume Area	"Impacted" soil from 3 ft bgs to bottom. Strong odor below 10.5 ft bgs. Gravel saturated with oil.	3-18
TS-04	Potlatch 2009	Treatability Study Test Pit	LNAPL Plume Area	Odor begins at 7.5 ft bgs. Impacted soil below 12 ft bgs.	12-16
TS-05	Potlatch 2009	Treatability Study Test Pit	LNAPL Plume Area	No specific petroleum observations reported.	
TS-06	Potlatch 2009	Treatability Study Test Pit	LNAPL Plume Area	Impacted soil below 12 ft bgs. Heavy oil staining below 14 ft bgs. Oil visible on cobbles and boulders.	12-20
BH-1	Potlatch 2009	Borehole	Near former AST / Highway 50	LNAPL in soil at 13 and 15-20 ft bgs. LNAPL on GW.	13-20
BH-2	Potlatch 2009	Borehole	Near former AST / Highway 50	Oil in sand 15-20 ft bgs. LNAPL on GW.	15-20
BH-3	Potlatch 2009	Borehole	Near former AST / Highway 50	Petroleum odor and sheen 10-11.5 ft bgs. LNAPL on GW.	7.5-15
BH-4	Potlatch 2009	Borehole	Near former AST / Highway 50	Petroleum odor and sheen 7.5 to 15 ft bgs. LNAPL on GW.	7.5-15
BH-5	Potlatch 2009	Borehole	Near former AST / Highway 50	Petroleum odor and sheen 5-15 ft bgs. Sheen on GW.	5-17
GA-1	Potlatch 2009	Monitoring Well Borehole	Western Area	LNAPL and sheen present 15-21 ft bgs.	15-21
GA-2	Potlatch 2009	Monitoring Well Borehole	Western Area	None observed.	
GA-3	Potlatch 2009	Monitoring Well Borehole	Western Area	Sheen on GW.	15-22
GA-4	Potlatch 2009	Monitoring Well Borehole	Western Area	None observed.	

Data sources:

EPA 2007 (E & E 2007) Potlatch 2009 (Golder 2010)

Key:

bgs = below ground surface
LNAPL = light non-aqueous phase liquid
TPH = total petroleum hydrocarbon

Summary of LNAPL Observations in Monitoring Wells (2007 and 2009) Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

		LNAPL Thickness (feet))
Monitoring Well	EPA April 2007	Potlatch September 2009	Potlatch November 2009
EMW-01			
EMW-02			
EMW-03			
EMW-04		"Thin Layer"	Drop Tube (2)
EMW-05			
EMW-06		0.24	Drop Tube (2)
HC-1R			
HC-4	0.88	Not Sampled	1.24 (no water)
MW-5			
MW-11	Present (no water) (1)	Present, no water	3.73 (no water)
TP-2 (#1010)	0.72	"Thin Layer" (no water)	Present (could not determine DTW) (1)
EW-3	Present (no water) (1)		
EW-4	Present (no water) (1)		
DW-01	Not Sampled		
GA-1	Not Sampled	0.01	
GA-2	Not Sampled		
GA-3	Not Sampled		
GA-4	Not Sampled		

Notes: (1) Product was present but thickness could not be determined.

(2) A drop tube was installed in the monitoring well to allow for groundwater sampling without cross-contamination from the LNAPL. Therefore, an accurate product thickness could not be determined.

Key:

-- = no LNAPL/product detected

LNAPL = light non-aqueous phase liquid

Table 2-3 Summary of Samples, EPA 2007 Removal Assessment Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

EPA Sample ID	Location ID	Sample Date	Matrix	Analyses
07040101	EMW-01 SB 06	4/16/2007	Soil	VOCs
07040102	EMW-01 SB 02	4/16/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040103	EMW-02 SB 05	4/17/2007	Soil	VOCs
07040104	EMW-02 SB 07	4/17/2007	Soil	SVOCs and PCBs
07040105	EMW-02 SB 05	4/17/2007	Soil	TAL Metals and NWTPH-Dx
07040106	EMW-03 SB 11	4/17/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040107	EMW-03 SB 11	4/17/2007	Soil	VOCs
07040108	EMW-04 SB 03	4/17/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040109	EMW-05 SB 09	4/18/2007	Soil	VOCs
07040110	EMW-05 SB 09	4/18/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040111	RB-01 (Rinse Blank)	4/18/2007	Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040112	EMW-06 SB 07	4/18/2007	Soil	VOCs
07040113	EMW-06 SB 07	4/18/2007	Soil	TAL Metals
07040114	EMW-06 SB 09	4/18/2007	Soil	SVOCs, PCBs, and NWTPH-Dx
07040115	ESB-01 SB 07	4/18/2007	Soil	VOCs
07040116	ESB-01 SB 07	4/18/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040117	ESB-02 SB 03	4/18/2007	Soil	SVOCs, PCBs, and TAL Metals
07040118	ESB-03 SB 09	4/18/2007	Soil	VOCs
07040119	ESB-03 SB 11	4/18/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040120	ESB-04 SB 03	4/18/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040121	ESB-04 SB 07	4/18/2007	Soil	VOCs
07040122	ESB-04 SB 07	4/18/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040123	ESB-05 SB 09	4/19/2007	Soil	VOCs
07040124	ESB-05 SB 15	4/19/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040125	ESB-05 SB 23	4/19/2007	Soil	SVOCs and PCBs
07040126	ESB-06 SB 09	4/19/2007	Soil	VOCs
07040127	ESB-06 SB 11	4/19/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040128	ESB-07 SB 07	4/19/2007	Soil	VOCs
07040129	ESB-07 SB 13	4/19/2007	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040130	TB-01 (Trip Blank)	4/20/2007	Water	VOCs
07040131	HC-4	4/20/2007	Product	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040132	SW-01	4/20/2007	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040133	SW-02	4/20/2007	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040134	SW-03	4/20/2007	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040135	EMW-01	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040136	EMW-02	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040137	EMW-03	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040138	EMW-04	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040139	EMW-05	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040140	EMW-06	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040141	HC-1	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040142	MW-5	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040143	DW-01	4/21/2007	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx

Note: The two digits at the end of the soil sample Location ID indicates the depth, in feet below ground surface, where the sample was collected.

Key:

DW = domestic well EMW = EPA monitoring well

EPA = U.S. Environmental Protection Agency

ESB = EPA soil boring
HC = Hart Crowser
ID = identification
MW = monitoring well

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons, Diesel-Range Extended

PCBs = polychlorinated biphenyls

RB = rinse blank
SB = soil boring

START = Superfund Technical Assessment and Response Team

SVOCs = semivolatile organic compounds

SW = surface water

TAL = Target Analyte List (Metals)

TB = trip blank

Table 2-4 Summary of Samples, Potlatch 2009 Field Investigation Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Sample ID	Date Collected	Matrix	Sample Type/Description	Analyses
GTP1-2.5	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP1-10.5	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP1-13.5	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP2-2.5	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP2-8	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP2-13	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP3-3.5	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP3-5	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP3-13.5	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP4-2.5	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP4-6.0	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP4-8.0	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP5-3.0	8/27/2009	Soil		
	_		Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP5-7.0	8/27/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP5-11	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP6-2.5	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP6-10	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP6-17	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP7-2.5	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP7-10.0	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
GTP7-18	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
TS-COMP-1				
(TS-01 & TS-04)	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
TS-COMP-2				
(TS-02 & TS-03)	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
TS-COMP-3				
(TS-05 & TS-06)	8/28/2009	Soil	Test Pits	TPH, PCBs, PAHs, TAL Metals, SVOCs, VOCs
G-BH1-Surf	8/28/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH1-7.5	8/28/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH1-16	8/28/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH2-Surf	8/28/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH2-7.5	8/28/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH2-15	8/28/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH3-Surf	8/27/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH3-7.5	8/27/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH3-15	8/27/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH4-Surf	8/27/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH4-7.5	8/27/2009	Soil	Borehole	TPH, PCBs, PAH
G-BH4-15	8/27/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH5-Surf	8/27/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH5-7.5	8/27/2009	Soil	Borehole	TPH, PCBs, PAHs
G-BH5-15	8/27/2009	Soil	Borehole	TPH, PCBs, PAHs
G-GA1-21	8/26/2009	Soil	Borehole (GA1)	TPH, PCBs, PAHs
G-GA3-20	8/26/2009	Soil	Borehole (GA3)	TPH, PCBs, PAHs
G-GA1	09/05/09	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
G-GA2	9/2/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals
G-GA3	9/3/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
G-GA4	9/2/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
G-DW01	9/2/2009	Groundwater	Domestic Well	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
G-MW5	9/3/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals
G-HC1R	9/4/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals
G-EW3	9/4/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
G-EW4	9/4/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals
G-EMW04	9/4/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
G-EMW05	09/05/09	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
G-EMW06	9/5/2009	Groundwater	Monitoring Well	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
			·	
G-MW11FP	9/1/2009	LNAPL	N.A.	TPH, PCBs, TAL Metals
G-P1010FP	9/4/2009	LNAPL	N.A.	TPH, PCBs, TAL Metals
G-HC4FP	11/19/2009	LNAPL	N.A.	TPH, PCBs, TAL Metals
	0.15.10.000			
G-RS5FP G-RS4FP	9/5/2009 9/5/2009	LNAPL LNAPL	N.A. N.A.	TPH, PCBs, TAL Metals TPH, PCBs, TAL Metals

Table 2-4 Summary of Samples, Potlatch 2009 Field Investigation **Draft Engineering Evaluation/Cost Analysis** Avery Landing Site, Avery, Idaho

Sample ID	Date Collected	Matrix	Sample Type/Description	Analyses
G-RS3aFP	9/5/2009	LNAPL	N.A.	TPH, PCBs, TAL Metals
G-RS1SED-0	9/7/2009	Sediment	Station 1, 0 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS1SED-4	9/7/2009	Sediment	Station 1, 4 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS2SED-0	9/7/2009	Sediment	Station 2, 0 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS2SED-3	9/7/2009	Sediment	Station 2, 3 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS3SED-0	9/7/2009	Sediment	Station 3, 0 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS3SED-4	9/7/2009	Sediment	Station 3, 4 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS4SED-0	9/7/2009	Sediment	Station 4, 0 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS4SED-4	9/7/2009	Sediment	Station 4, 4 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS-5SED-0	9/8/2009	Sediment	Station 5, 0 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS5SED-4	9/7/2009	Sediment	Station 5, 4 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS6SED-0	9/7/2009	Sediment	Station 6, 0 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS6SED-3	9/7/2009	Sediment	Station 6, 3 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS7SED-0	9/7/2009	Sediment	Station 7, 0 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS7SED-4	9/7/2009	Sediment	Station 7, 4 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS8SED-0	9/7/2009	Sediment	Station 8, 0 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS8SED-3	9/7/2009	Sediment	Station 8, 3 feet from bank	TPH, PCBs, PAHs, TAL Metals
G-RS1SW	9/6/2009	Surface Water	Station 1	TPH, PCBs, PAHs, TAL Metals
G-RS2SW	9/6/2009	Surface Water	Station 2	TPH, PCBs, PAHs, TAL Metals
G-RS3SW	9/6/2009	Surface Water	Station 3	TPH, PCBs, PAHs, TAL Metals
G-RS4SW	9/6/2009	Surface Water	Station 4	TPH, PCBs, PAHs, TAL Metals
G-RS5SW	9/6/2009	Surface Water	Station 5	TPH, PCBs, PAHs, TAL Metals, Dissolved Metals
G-RS6SW	9/6/2009	Surface Water	Station 6	TPH, PCBs, PAHs, TAL Metals
G-RS7SW	9/6/2009	Surface Water	Station 7	TPH, PCBs, PAHs, TAL Metals
G-RS8SW	9/6/2009	Surface Water	Station 8	TPH, PCBs, PAHs, TAL Metals

Key:

PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyles
SVOCs = semivolatile organic compounds
TAL = target analyte list
TPH = total petroleum hydrocarbons
VOCs = volatile organic compounds

Table 2-5 Human Health Assessment Soil Screening Results Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Analyte	Number of Valid Samples	Number of Detects	Maximum Detected Concentration (mg/kg)	Screening Value ^e (mg/kg)	Screening Value Source	coc	Frequency of Exceedance
Volatile Organic Compounds					l l		
1,2,4-Trimethylbenzene	24	10	53	0.19	IDTL	YES	3
,2-Dichlorobenzene	24	3	0.037	5.3	IDTL	No (max < IDTL)	0
1,3,5-Trimethylbenzene	24	7	13	0.15	IDTL	YES	2
,4-Dichlorobenzene	24	1	0.0064	0.076	IDTL	No (max < IDTL)	0
1-Isopropyltoluene	24	14	27	na	IDTL		
Benzene	35	5	0.045 J	0.018	IDTL	YES	3
eis-1,2-Dichloroethene	35	1	0.095	0.19	IDTL	No (max < IDTL)	0
Ethylbenzene	35	17	3.2	10	IDTL	No (max < IDTL)	0
sopropylbenzene	24	9	1.6	3.5	IDTL	No (max < IDTL)	0
Methylene Chloride	35	2	1.6 J	0.017	IDTL	No ^f	1
n-Xylene & p-Xylene ^a	35	19	9	1.7	IDTL	YES	1
-Butylbenzene	24	3	0.71	1.2	IDTL	No (max < IDTL)	0
N-Propylbenzene	24	9	4.3	na	IDTL		
-Xylene	35	16	5.5	1.7	IDTL	YES	1
ec-Butylbenzene	24	7	4.5	1.2	IDTL	YES	1
ert-Butylbenzene	24	4	0.16	0.85	IDTL	No (max < IDTL)	0
Toluene	35	15	0.4	4.9	IDTL	No (max < IDTL)	0
Trichloroethene	35	5	0.17	0.0029	IDTL	YES	3
-Butanone	11	9	0.054 J	12	IDTL	No (max < IDTL)	0
-Hexanone	11	1	0.006 J	na	IDTL		
Acetone	11	11	0.23 J	17	IDTL	No (max < IDTL)	0
Carbon disulfide	11	4	0.0031	6.0	IDTL	No (max < IDTL)	0
Chlorobenzene	11	3	0.031 J	0.62	IDTL	No (max < IDTL)	0
tyrene	11	1	0.0028 J	1.8	IDTL	No (max < IDTL)	0
Polychlorinated Biphenyls (PCBs))						
Aroclor 1260	56	13	0.13	0.15	IDTL	No (max < IDTL)	0
Bulk Petroleum Parameters	<u> </u>		<u> </u>		1	<u> </u>	
Diesel Range Organics	54	42	17,000	none	na	No (no standard)	na
Heavy Oils	54	45	12,800	none	na	No (no standard)	na
Carcinogenic Polycyclic Aromatic			,		<u> </u>	(
Benzo(a)anthracene	56	31	0.86	0.42	IDTL	YES	1
Benzo(a)pyrene	56	30	0.65	0.042	IDTL	YES	11
Benzo(b)fluoranthene	56	28	0.49	0.42	IDTL	YES	
Benzo(k)fluoranthene	56	16	0.027	4.2	IDTL	No (max < IDTL)	0
Chrysene		40					0
Dibenzo(a,h)anthracene	56 56	12	1.9 0.245	33 0.042	IDTL IDTL	No (max < IDTL) YES	1
ndeno(1,2,3-cd)pyrene	56	27	0.245	0.42	IDTL	No (max < IDTL)	0
Non-Carcinogenic PAHs	30	41	0.277	0.42	IDIL	140 (IIIdV < ID1F)	U
	E4	26	20	22	DCI	MEG	1
-Methylnaphthalene ^b	56	26	30	22	RSL	YES	1 0
-Methylnaphthalene	56	27	44	3.3	IDTL	YES	8
Acenaphthene	56	22	3.2	52	IDTL	No (max < IDTL)	0
Acenaphthylene	56	6	0.0186	78	IDTL	No (max < IDTL)	0
Anthracene	56	31	1.55	1,040	IDTL	No (max < IDTL)	0
Benzo(g,h,i)perylene	56	39	0.48	1,178	IDTL	No (max < IDTL)	0
luoranthene	56	39	1.4	364	IDTL	No (max < IDTL)	0
		27	4.9	55	IDTL	Ma (man c IDTI)	0
luorene	56	27	4.9	33	IDIL	No (max < IDTL)	
luorene Naphthalene	56 56	25	6.0 J	1.1	IDTL	YES	7

Human Health Assessment Soil Screening Results Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Analyte	Number of Valid Samples	Number of Detects	Maximum Detected Concentration (mg/kg)	Screening Value ^e (mg/kg)	Screening Value Source	coc	Frequency of Exceedance				
Semivolatile Organic Compounds	Semivolatile Organic Compounds										
2-Chloronaphthalene	15	1	0.17	128	IDTL	No (max < IDTL)	0				
2-Methylphenol ^c	37	1	0.005	1.8	IDTL	No (max < IDTL)	0				
3 & 4 Methylphenol	37	1	0.066	0.14	IDTL	No (max < IDTL)	0				
4-Nitroaniline	15	1	0.0054 J	0.0030	IDTL	YES	1				
Bis(2-chloroethoxy)methane	15	1	0.077	na	IDTL						
Bis(2-ethylhexyl)phthalate	39	4	0.3	12	IDTL	No (max < IDTL)	0				
Butyl benzyl phthalate	39	1	0.014	511	IDTL	No (max < IDTL)	0				
Carbazole	39	4	0.95	na	IDTL						
Dibenzofuran	39	4	0.56	6.1	IDTL	No (max < IDTL)	0				
Diethylphthalate	39	4	0.2	28	IDTL	No (max < IDTL)	0				
Di-n-butyl phthalate	39	3	0.2	31	IDTL	No (max < IDTL)	0				
Di-n-octyl phthalate	39	1	0.054	1,829	IDTL	No (max < IDTL)	0				
Phenol	37	1	0.0095	7.4	IDTL	No (max < IDTL)	0				
Metals											
Aluminum ^b	38	38	19500	77,000	RSL	No (max < RSL)	0				
Antimony	38	36	13	4.8	IDTL	YES	1				
Arsenic	38	38	45	0.39	IDTL	YES	38				
Barium	38	38	1100	896	IDTL	YES	1				
Beryllium	38	35	10	1.6	IDTL	YES	1				
Cadmium	38	33	0.94	1.4	IDTL	No (max < IDTL)	0				
Calcium	38	38	25000	na	IDTL	No, ES					
Chromium ^d	38	38	18.8	2,135	IDTL	No (max < IDTL)	0				
Cobalt	38	38	19.2	23	IDTL	No (max < IDTL)	0				
Copper	38	38	160	921	IDTL	No (max < IDTL)	0				
Iron	38	38	24,600	5.8	IDTL	YES	38				
Lead	38	38	410	50	IDTL	YES	8				
Magnesium	38	38	9600	na	IDTL	No, ES					
Manganese	38	38	560	223	IDTL	YES	22				
Mercury	38	27	0.117	0.0051	IDTL	YES	27				
Nickel	38	38	32.3	59	IDTL	No (max < IDTL)	0				
Potassium	38	38	3500	na	IDTL	No, ES					
Selenium	38	38	0.4	2.0	IDTL	No (max < IDTL)	0				
Silver	38	14	0.17	0.19	IDTL	No (max < IDTL)	0				
Sodium	38	4	477	na	IDTL	No, ES					
Thallium	38	15	0.41	1.6	IDTL	No (max < IDTL)	0				
Vanadium ^b	38	38	37	390	RSL	No (max < IDTL)	0				
Zinc	38	38	180	886	IDTL	No (max < IDTL)	0				

Notes: ^a Value for total xylenes

 $\label{eq:coc} \mbox{Key:} \\ \mbox{COC} = \mbox{Chemical of concern; maximum detected value is greater than the screening value (max < IDTL)}$

na = A screening value for this analyte was not available

ES = Essential nutrient, not evaluated in this risk evaluation.

IDTL = Idaho Department of Environmental Quality, Idaho Default Target Levels (DEQ 2004)

 $J=estimated\ value$

 $mg/kg = milligram \ per \ kilogram$

RSL = Regional Screening Level

b IDEQ value was not available, EPA Regional Screening Level was used (EPA 2010)

^c Value is for 4-methylphenol

^d Value for Chromium (III) Total

^e These values are IDTL criteria unless noted.

 $^{^{\}rm f}$ Methylene chloride is a common laboratory contaminant, so it is not designated as a site COC.

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Table 2-6 Comparison of Maximum Site Metals Concentrations to Background Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Analyte	Maximum Detected Concentration (mg/kg)	Upper Bound Background ^a (mg/kg)	Frequency of Exceedence Compared to Background
Antimony	13	5.8	11
Arsenic	45	22	3
Iron	24,600	65,000	0
Lead	410	171	1
Manganese	560	3,597	0
Mercury	0.117	0.3	0

Note: ^a Background levels obtained from URS Greiner, 2001.

Key:

mg/kg = milligrams per kilogram

Human Health Assessment Groundwater Screening Results Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Analyte	Number of Valid Samples	Number of Detects	Maximum Detected Concentration (μg/L)	Screening Value ^c (µg/L)	Screening Value Source	coc	Frequency of Exceedance
Volatile Organic Compounds	Samples	Detects	(μg/L)	(µg/L)	Source	coc	Exceedance
Acetone	9	3	3.2 J	9386	IDTL	No (max < IDTL)	0
Chlorobenzene	9	2	3.6	100	IDTL	No (max < IDTL)	0
1,2-Dichlorobenzene	9	4	0.53 J	600	IDTL	No (max < IDTL)	0
1,4-Dichlorobenzene	9	1	0.051 J	75	IDTL	No (max < IDTL)	0
Polychlorinated Biphenyls (PCB		1	0.0313	75	IDIL	110 (max < nb1E)	0
Aroclor 1260	13	1	0.028	0.028	IDTL	YES	1
Bulk Petroleum Parameters	10		0.020	0.020	IDIL	125	-
Diesel Range Organics	21	14	110,000	none	na	No (no standard)	na
Heavy Oils	21	10	45,000	none	na	No (no standard)	na
Carcinogenic Polycyclic Aromat	1		,			(
Benzo(a)anthracene	21	6	1.6	0.077	IDTL	YES	2
Benzo(a)pyrene	21	2	0.85	0.20	IDTL	YES	1
Benzo(b)fluoranthene	21	3	0.84	0.077	IDTL	YES	2
Benzo(k)fluoranthene	21	1	0.021 J	0.77	IDTL	No (max < IDTL)	0
Chrysene	21	9	3	7.7	IDTL	No (max < IDTL)	0
Non-Carcinogenic PAHs							
1-Methylnaphthalene ^a	21	12	210	2.3	RSL	YES	5
2-Methylnaphthalene	21	12	270	42	IDTL	YES	1
Acenaphthene	21	17	9.3	626	IDTL	No (max < IDTL)	0
Acenaphthylene	21	9	0.25	626	IDTL	No (max < IDTL)	0
Anthracene	21	16	4.4	3129	IDTL	No (max < IDTL)	0
Benzo(g,h,i)perylene	21	4	0.51	313	IDTL	No (max < IDTL)	0
Fluoranthene	21	12	4.2	417	IDTL	No (max < IDTL)	0
Fluorene	21	18	34	417	IDTL	No (max < IDTL)	0
Naphthalene	21	14	63	209	IDTL	No (max < IDTL)	0
Phenanthrene	21	15	59	313	IDTL	No (max < IDTL)	0
Pyrene	21	12	8.6	313	IDTL	No (max < IDTL)	0
Semivolatile Organic Compound	ls						
Bis(2-chloroethyl)ether	9	1	0.028	0.051	IDTL	No (max < IDTL)	0
Bis(2-ethylhexyl)phthalate	9	6	390	6.0	IDTL	No ^d	6
Carbazole	9	3	0.48	na	IDTL		0
Dibenzofuran	9	1	0.02	42	IDTL	No (max < IDTL)	0
Diethylphthalate	9	2	0.018	8343	IDTL	No (max < IDTL)	0
Di-n-butyl phthalate	9	1	2.5	1043	IDTL	No (max < IDTL)	0
Di-n-octyl phthalate	9	1	0.08	417	IDTL	No (max < IDTL)	0
4,6-Dinitro-2-methylphenof	5	1	19 J	2.9	RSL	YES	1
N-Nitrosodiphenylamine	9	1	12	11	IDTL	YES	1

Human Health Assessment Groundwater Screening Results Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Analyte	Number of Valid Samples	Number of Detects	Maximum Detected Concentration (µg/L)	Screening Value ^c (µg/L)	Screening Value Source	coc	Frequency of Exceedance
Metals							
Aluminum	21	8	32,200	37000	IDTL	No (max < IDTL)	0
Arsenic	21	16	88.6	10	IDTL	YES	10
Antimony	12	9	2.8	6.0	IDTL	No (max < IDTL)	0
Barium	21	21	305	2000	IDTL	No (max < IDTL)	0
Beryllium	21	2	1.84	4.0	IDTL	No (max < IDTL)	0
Cadmium	21	2	1.07	5.0	IDTL	No (max < IDTL)	0
Calcium	21	21	82,300	na	IDTL		0
Chromium ^b	21	8	35.6	100	IDTL	No (max < IDTL)	0
Cobalt ^a	21	18	22.9	11	RSL	YES	2
Copper	21	18	132	1300	IDTL	No (max < IDTL)	0
Iron	21	20	80,500	3,130	IDTL	YES	13
Lead	21	9	39.8	15	IDTL	YES	1
Magnesium	21	21	26400	na	IDTL		0
Manganese	21	21	5630	250	IDTL	YES	13
Nickel	21	21	37.8	209	IDTL	No (max < IDTL)	0
Potassium	21	21	8130	na	IDTL		0
Selenium	21	2	1.18	50	IDTL	No (max < IDTL)	0
Silver	21	1	0.532	52	IDTL	No (max < IDTL)	0
Sodium	21	20	5350	na	IDTL		0
Thallium	21	1	0.356	2.0	IDTL	No (max < IDTL)	0
Vanadium ^a	21	10	53.2	180	RSL	No (max < IDTL)	0
Zinc	21	14	1200	3,130	IDTL	No (max < IDTL)	0
Mercury	21	5	0.12	2.0	IDTL	No (max < IDTL)	0

Notes: ^a IDEQ value was not available, EPA Regional Screening Level was used (EPA 2010)

Key:

COC = Chemical of concern; maximum detected value is greater than screening value (max < IDTL)

ES = Essential nutrient, not evaluated in this risk evaluation

IDTL = Idaho Department of Environmental Quality, Idaho Default Target Levels (DEQ 2004)

 μ g/L = microgram per kilogram

na = A screening value for this analyte was not available

^b Value for Chromium (III) Total

^c These values are IDTL criteria unless noted.

d Bis(2-ethylhexyl)phthalate is a component of plastic well casing and is also a common laboratory contaminant. Therefore it is not considered a site COC.

Human Health Assessment Surface Water and Aquatic Organisms Screening Results Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Analyte	Number of Valid Samples	Number of Detects	Maximum Detected Conc. (μg/L)	Surface Water Supply (µg/L)	FOE Surface Water Supply	Surface Water Recreational Use (µg/L)	FoE Surface Water Recreational Use	сос
Bulk Petroleum Parameters								
Diesel-Range Organics	11	2	2,300	na		na		
Oil-Range Organics	11	1	1,200	na		na		
Carcinogenic Polycyclic Aron	natic Hydroca	rbons (PA	Hs)					
Benzo(a)anthracene	11	2	0.011 J	0.0038	2	0.018	0	YES
Benzo[a]pyrene	11	1	0.027	0.0038	1	0.018	1	YES
Benzo[b]fluoranthene	11	1	0.023 J	0.0038	1	0.018	1	YES
Chrysene	11	2	0.016 J	0.0038	2	0.018	0	YES
Non-Carcinogenic PAHs								
1-Methylnaphthalene	11	7	0.34	na		na		
2-Methylnaphthalene	11	3	0.11	na		na		
Acenaphthene	11	7	0.084	670	0	990	0	No (max < SL)
Acenaphthylene	11	3	0.0094 J	na		na		
Anthracene	11	7	0.021	8,300	0	40,000	0	No (max < SL)
Fluoranthene	11	7	0.017	300	0	140	0	No (max < SL)
Fluorene	11	7	0.2	1,100	0	5,300	0	No (max < SL)
Naphthalene	11	2	0.054	na		na		
Phenanthrene	11	7	0.21	na		na		
Pyrene	11	6	0.046	830	0	4,000	0	No (max < SL)
Semivolatile Organic Compo	ınds							
Diethyl phthalate	3	1	0.011 J	23,000	0	120,000	0	No (max < SL)
Di-n-octyl phthalate	3	1	0.073 J	na		na		
Benzyl alcohol	3	1	0.013 J	na		na		
Metals								
Arsenic ^a	11	5	1.1 J	10	0	10	0	No (max < SL)
Barium	11	11	13	na		na		
Chromium ^b	11	5	0.51 J	na		na		
Cobalt	11	2	0.033 J	na		na		
Copper	11	8	0.9 J	na		na		
Manganese	11	8	160	na		na		
Mercury ^a	11	2	0.12 J	0.14	0	0.15	0	No (max < SL)
Nickel ^a	11	8	0.58 J	610	0	4,600	0	No (max < SL)
Thallium	11	1	0.14 J	0.24	0	0.47	0	No (max < SL)
Vanadium	11	1	0.28 J	na		na		

Notes: ^a Surface water value is for dissolved metals

Key:

COC = Chemical of concern; maximum detected value is greater than screening value (max < IDTL)

Conc. = concentration

FoE = freequency of exceedence

IDTL = Idaho Department of Environmental Quality, Idaho Default Target Levels (DEQ 2004)

na = A screening value for this analyte was not available

 $\mu g/L = micrograms \ per \ kilogram$

SL = screening level

^b Value for Chromium (III) Total

Ecological Assessment Surface Water Screening Results Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Chemical	Number of Samples	Number of Detects	Maximum Detected Concentration	Idaho Chronic Water Quality Standard		Alternate Surface Water Benchmark ^b		
			(μg/L)	(μg/L)	Value (μg/L)	Description		
Bulk Petroleum Parame	eters							
Diesel-Range Organics	11	2	2,300	na	na	na		
Oil-Range Organics	11	1	1,200	na	na	na		
Polycyclic Aromatic Hy	drocarbons (PA	Hs)						
1-Methylnaphthalene	11	7	0.34	na	2.1	Tier II SCV	0	
2-Methylnaphthalene	11	3	0.11	na	2.1	Tier II SCV	0	
Acenaphthene	11	7	0.084	na	74	LCV	0	
Acenaphthylene	8	3	0.0094 J	na	na	na		
Anthracene	11	7	0.021	na	0.73	Tier II SCV	0	
Benzo(a)anthracene	11	2	0.011 J	na	0.027	Tier II SCV	0	
Benzo[a]pyrene	11	1	0.027	na	0.014	Tier II SCV	1	
Benzo[b]fluoranthene	11	1	0.023 J	na	na	na		
Chrysene	11	2	0.016 J	na	na	na		
Fluoranthene	11	7	0.017	na	15	LCV	0	
Fluorene	11	7	0.2	na	3.9	Tier II SCV	0	
Naphthalene	11	2	0.054	na	12	Tier II SCV	0	
Phenanthrene	11	7	0.21	na	200	LCV	0	
Pyrene	11	6	0.046	na	na	na		
Semivolatile Organic Co	ompounds							
Diethyl phthalate	3	1	0.011 J	na	210	Tier II SCV	0	
Di-n-octyl phthalate	3	1	0.073 J	na	780	LCV	0	
Benzyl alcohol	3	1	0.013 J	na	8.6	Tier II SCV	0	
Metals								
Arsenic	11	5	1.1 J	150	nr	nr	0	
Barium	11	11	13	na	nr	nr		
Chromium ^a	11	5	0.51 J	42	nr	nr	0	
Cobalt	11	2	0.033 J	na	23	Tier II SCV	0	
Copper ^a	11	8	0.9 J	6.3	nr	nr	0	
Manganese	11	8	160	na	120	Tier II SCV	1	
Mercury	11	2	0.12 J	na	1.3	Tier II SCV	0	
Nickel ^a	11	8	0.58 J	49	nr	nr	0	
Thallium	11	1	0.14 J	na	12	Tier II SCV	0	
Vanadium	11	1	0.28 J	na	20	Tier II SCV	0	

Notes: a = Based on hardness of 50 mg/L as calcium carbonate.

b = Suter and Tsao (1996).

na = not available

 $nr = not \ required \ (given \ that \ a \ state \ standard \ is \ available)$

SCV = secondary chronic value

Ecological Assessment Sediment Screening Results Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

	Number of Samples	Number of Detects	Maximum Detected Concentration	Sediment (mg) Freshwater Benchmark g/kg)	Alternate Screening Level ^a	Frequency of Exceedance (FoE)	
Analyte			(mg/kg)	SL1	SL2	(mg/kg)		
Polychlorinated Biphenyls (PCBs)	Τ	ı	Τ		1		T	
Aroclor 1260	16	1	0.01	0.06	0.12	nr	0	
Bulk Petroleum Parameters	Τ	ı	Τ		1		T	
Diesel Range Organics	16	11	8,830	na	na	na		
Heavy Oils	16	12	6,980	na	na	na		
Polycyclic Aromatic Hydrocarbons	(PAHs)	1	Т		1		T	
1-Methylnaphthalene	16	3	5	na	na	na		
2-Methylnaphthalene	16	14	0.47	0.47	0.56	nr	0	
Acenaphthene	16	3	1.9	1.1	1.3	nr	1	
Acenaphthylene	16	4	0.0046	0.47	0.64	nr	0	
Anthracene	16	3	0.23	1.2	1.6	nr	0	
Benzo(a)anthracene	12	7	0.48	4.3	5.8	nr	0	
Benzo(a)pyrene	13	8	0.097	3.3	4.8	nr	0	
Benzo(b)fluoranthene	12	9	0.143	0.6	4	nr	0	
Benzo(g,h,i)perylene	15	11	0.12	4	5.2	nr	0	
Benzo(k)fluoranthene	11	7	0.0467	0.6	4	nr	0	
Chrysene	15	8	1	5.9	6.4	nr	0	
Dibenzo(a,h)anthracene	15	9	0.037	0.8	0.84	nr	0	
Fluoranthene	16	7	0.68	11	15	nr	0	
Fluorene	16	3	3.1	1	3	nr	1	
Indeno(1,2,3-cd)pyrene	14	9	0.0746	4.1	5.3	nr	0	
Naphthalene	16	1	0.019	0.5	1.3	nr	0	
Phenanthrene	16	4	5	6.1	7.6	nr	0	
Pyrene	15	11	2.3	8.8	16	nr	0	
Other Organic Chemicals								
1,1,2,2,-Tetrachloroethane	16	2	0.00027	na	na	1.6	0	
1,2,4-Trichlorobenzene	16	1	0.00088	na	na	9.2	0	
1,2,4-Trimethylbenzene	16	2	0.00077	na	na	na		
1,2-Dibromo-3-Chloropropane	16	2	0.00054	na	na	na		
1,2-Dichororbenzene	16	5	0.0023	na	na	0.34	0	
1,3,5-Trimethylbenzene	16	2	0.0006	na	na	na		
1,3-Dichlorobenzene	16	2	0.00054	na	na	1.7	0	
1,4-Dichlorobenzene	16	2	0.00094	na	na	0.35	0	
2,6-Dinitrotoluene	16	1	0.0031	na	na	na		
2-Chloronaphthalene	16	2	0.0037	na	na	na		
2-Chlorotoluene	16	2	0.00035	na	na	na		
3 & 4 Methylphenol	16	4	0.0071	na	na	na		
4-Chlorotoluene	16	1	0.00046	na	na	na		
4-Isopropyltoluene	16	10	0.0072	na	na	na		
Benzene	16	1	0.0013	na	na	0.057	0	
Benzoic acid	16	3	0.12	na	na	na		
Benzyl alcohol	16	1	0.0017	na	na	na		
Bis(2-ethylhexyl)phthalate	16	4	0.01	0.22	0.32	nr	0	
Bromobenzene	16	2	0.00035	na	na	na		
Carbazole	16	5	0.0024	na	na	0.14	0	
Chlorobenzene	16	2	0.003	na	na	0.035	0	
Chloromethane	16	2	0.0032	na	na	na		
Dibenzofuran	16	5	0.015	na	na	2.4	0	
Di-n-octyl phthalate	16	2	0.0039	0.026	0.045	nr	0	

Table 2-10 Ecological Assessment Sediment Screening Results Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Analyte	Number of Samples	Number of Detects	Maximum Detected Concentration (mg/kg)	Sediment	Freshwater Benchmark g/kg) SL2	Alternate Screening Level ^a (mg/kg)	Frequency of Exceedance (FoE)	
Ethylbenzene	16	2	0.00035	na	na	1.4	0	
Hexachlorobutadiene	16	3	0.0011	na	na	0.054	0	
Isophorone	16	1	0.022	na	na	2.4	0	
Isopropylbenzene	16	5	0.0028	na	na	na		
m-Xylene & p-Xylene	16	5	0.00065	na	na	0.025	0	
n-Butylbenzene	16	5	0.018	na	na	na		
N-Propylbenzene	16	5	0.00088	na	na	na		
o-Xylene	16	6	0.00097	na	na	0.025	0	
Phenol	16	4	0.0055	na	na	0.048	0	
sec-Butylbenzene	16	5	0.01	na	na	na		
Styrene	16	2	0.00051	na	na	na		
tert-Butylbenzene	16 3 0.00089 na na		na	na				
Toluene	16	3	0.0022	na	na	0.89	0	
Metals								
Aluminum	16	16	7,000	na	na	58,000	0	
Antimony	16	16	210	na	na	3	5	
Arsenic	16	16	28	20	51	nr	1	
Barium	16	16	49	na	na	na		
Beryllium	16	16	0.31	na	na	na		
Chromium	16	16	8.2	95	100	nr	0	
Cobalt	16	16	8.4	na	na	50	0	
Copper	16	16	58	80	830	nr	0	
Iron	16	16	16,000	na	na	190,000	0	
Lead	16	16	600	340	430	nr	1	
Manganese	16	16	420	na	na	460	0	
Mercury	16	8	0.061	0.28	0.75	nr	0	
Nickel	16	16	13	60	70	nr	0	
Silver	16	1	0.053	2	2.5	nr	0	
Vanadium	16	16	18	na	na	na		
Zinc	16	16	70	130	400	nr	0	

Notes: a MacDonald et al. (1999).

Key:

na = not available

nr = not required (given that a RSET benchmark is available)

 $RSET = Regional \ Sediment \ Evaluation \ Team$

SL1 = screening level 1 SL2 = screening level 2

2-3

Table 2-11 Screening Summary for All Media Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

								Media								
	Soil (Human Health)				l l				Surface Water Human Health)		Surface Water (Ecological Receptors)			Sediment (Ecological Receptors)		
Contaminant of Concern	FoE	Max. Conc. (mg/kg)	Screening Value (mg/kg)	FoE	Max. Conc. (μg/L)	Screening Value (µg/L)	FoE	Max. Conc. (μg/L)	Screening Value (µg/L)	FoE	Max. Conc. (μg/L)	Screening Value (µg/L)	FoE	Max. Conc. (mg/kg)	Screening Value (mg/kg)	
Volatile Organic Compounds																
1,2,4-Trimethylbenzene	3	53	0.19													
1,3,5-Trimethylbenzene	2	13	0.15													
Benzene	3	0.045 J	0.018													
m-Xylene & p-Xylene	1	9	1.7													
o-Xylene	1	5.5	1.7													
sec-Butylbenzene	1	4.5	1.2													
Trichloroethene	3	0.17	0.0029													
Polychlorinated Biphenyls (PC	Bs)															
Aroclor 1260				1	0.028	0.028										
Bulk Petroleum Parameters																
Diesel Range Organics																
Heavy Oils																
Carcinogenic Polycyclic Aroma	itic Hydrocarb	ons (PAHs)														
Benzo(a)anthracene	1	0.86	0.42	2	1.6	0.077	2	0.011 J	0.0038							
Benzo(a)pyrene	11	0.65	0.042	1	0.85	0.20	1	0.027	0.0038	1	0.027	0.014				
Benzo(b)fluoranthene	1	0.49	0.42	2	0.84	0.077	1	0.023 J	0.0038							
Chrysene							2	0.016 J	0.0038							
Dibenzo(a,h)anthracene	1	0.245	0.042													
Non-Carcinogenic PAHs										·						
Acenaphthene													1	1.9	1.1	
1-Methylnaphthalene	1	30	22	5	210	2.3										
2-Methylnaphthalene	8	44	3.3	1	270	42										
Fluorene													1	3.1	1	
Naphthalene	7	6.0 J	1.1							_						
Semivolatile Organic Compoun	ıds												·—			
4-Nitroaniline	1	0.0054	0.00299													
4,6-Dinitro-2-Methylphenol				1	19 J	2.9										
N-Nitrosodiphenylamine				1	12	11.4										

Screening Summary for All Media Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

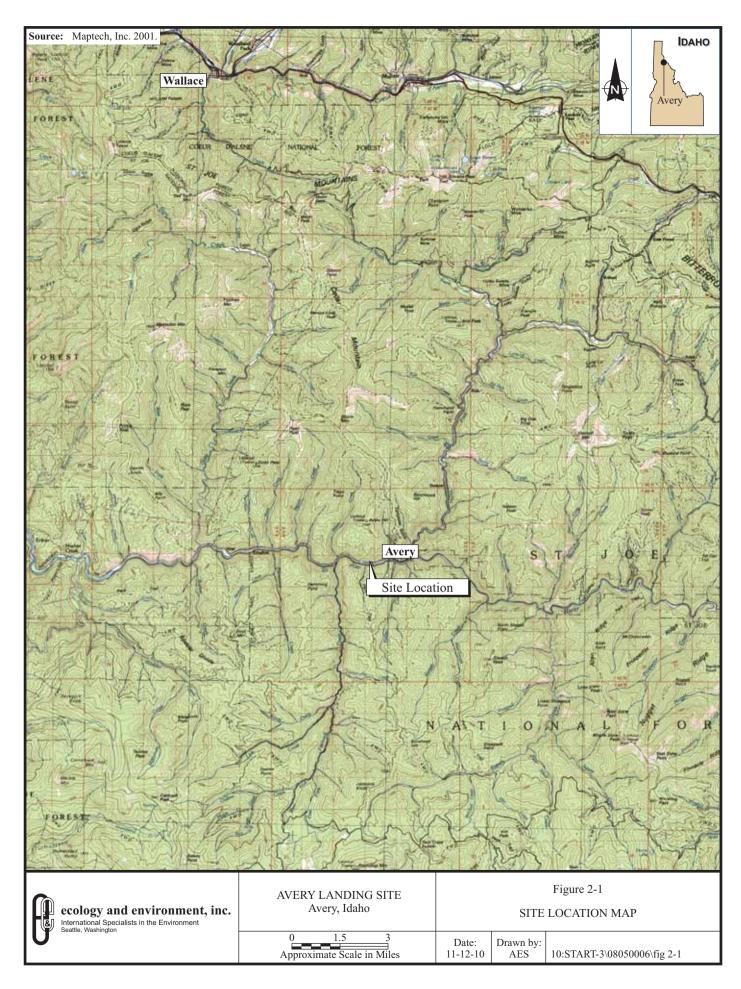
								Media ^a							
		Soil (Human Healt)	h)		Groundwater Human Healt			Surface Wate (Human Healt)			Surface Wate		(Ecc	Sediment ological Recep	etors)
Contaminant of Concern	FoE	Max. Conc. (mg/kg)	Screening Value (mg/kg)	FoE	Max. Conc. (μg/L)	Screening Value (µg/L)	FoE	Max. Conc. (μg/L)	Screening Value (µg/L)	FoE	Max. Conc. (μg/L)	Screening Value (µg/L)	FoE	Max. Conc. (mg/kg)	Screening Value (mg/kg)
Metals	•			'			'			'					
Antimony	1	13	4.8										5	210	3
Arsenic	38	45	0.39	10	88.6	10							1	28	20
Barium	1	1100	896												
Beryllium	1	10	1.6												
Cobalt				2	22.9	11									
Iron	38	24,600	5.8	13	80,500	3,130									
Lead	8	410	50	1	39.8	15							1	600	340
Manganese	22	560	223	13	5,630	250				1	160	120		_	
Mercury	27	0.117	0.0051												

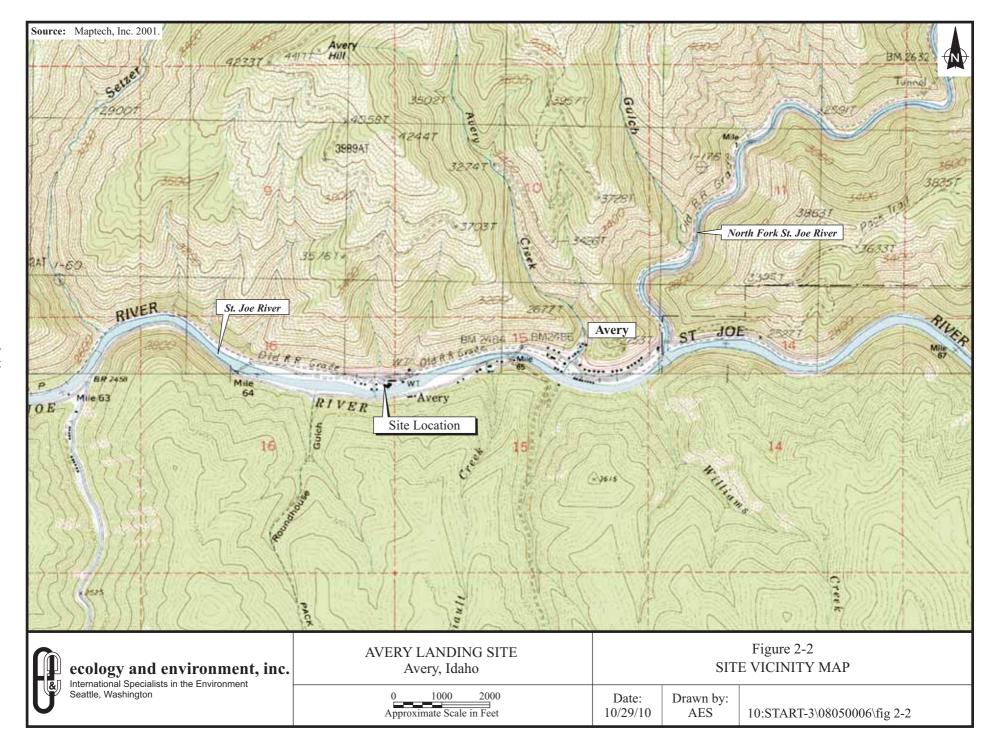
Note: a Soil, groundwater, and surface water were screening using human health criteria. Surface water and sediments were screening using ecological critiria (see Conceptual Site Model, Figure 2-18)

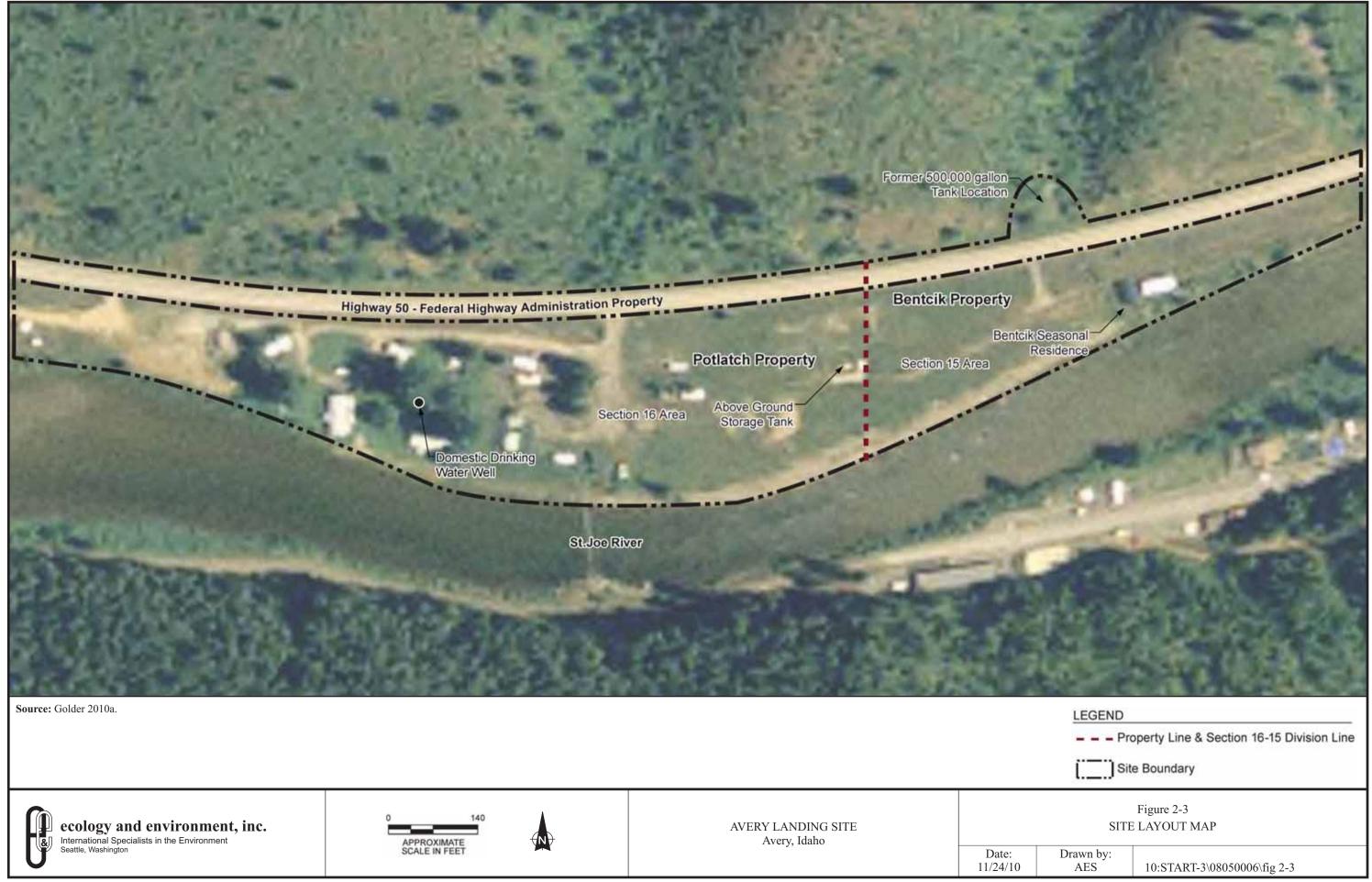
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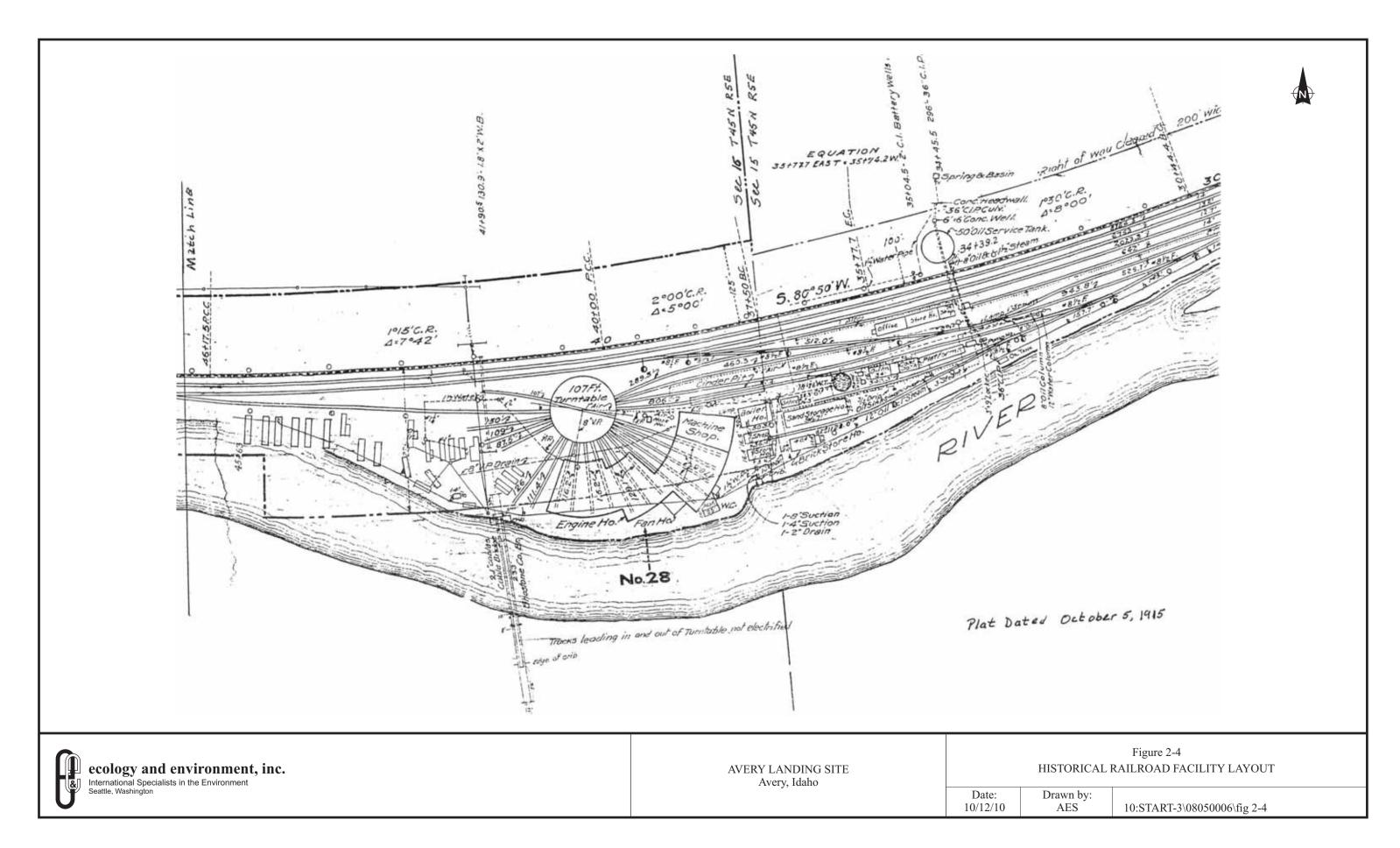
COC = chemical of concern FoE = frequency of exceedence mg/kg = milligrams per kilogram mg/L = micrograms per liter

J = estimated value

















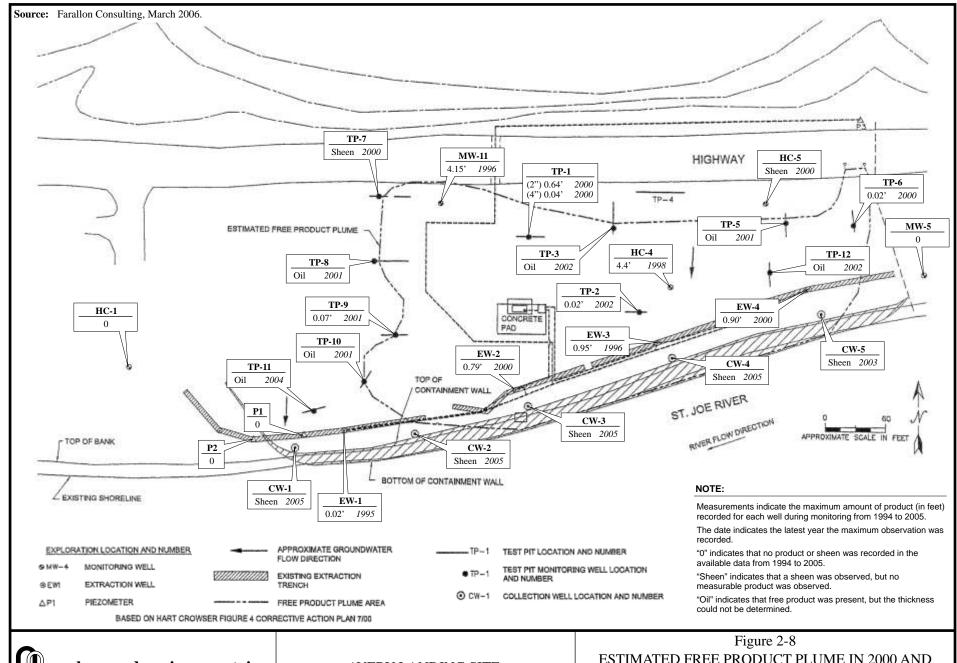
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AVERY LANDING SITE Avery, Idaho

		Figure 2-5 RAILROAD FACILITY LAYOUT ENT AERIAL IMAGE OF SITE
Date: 11/12/10	Drawn by: AES	10:START-3\08050006\fig 2-5









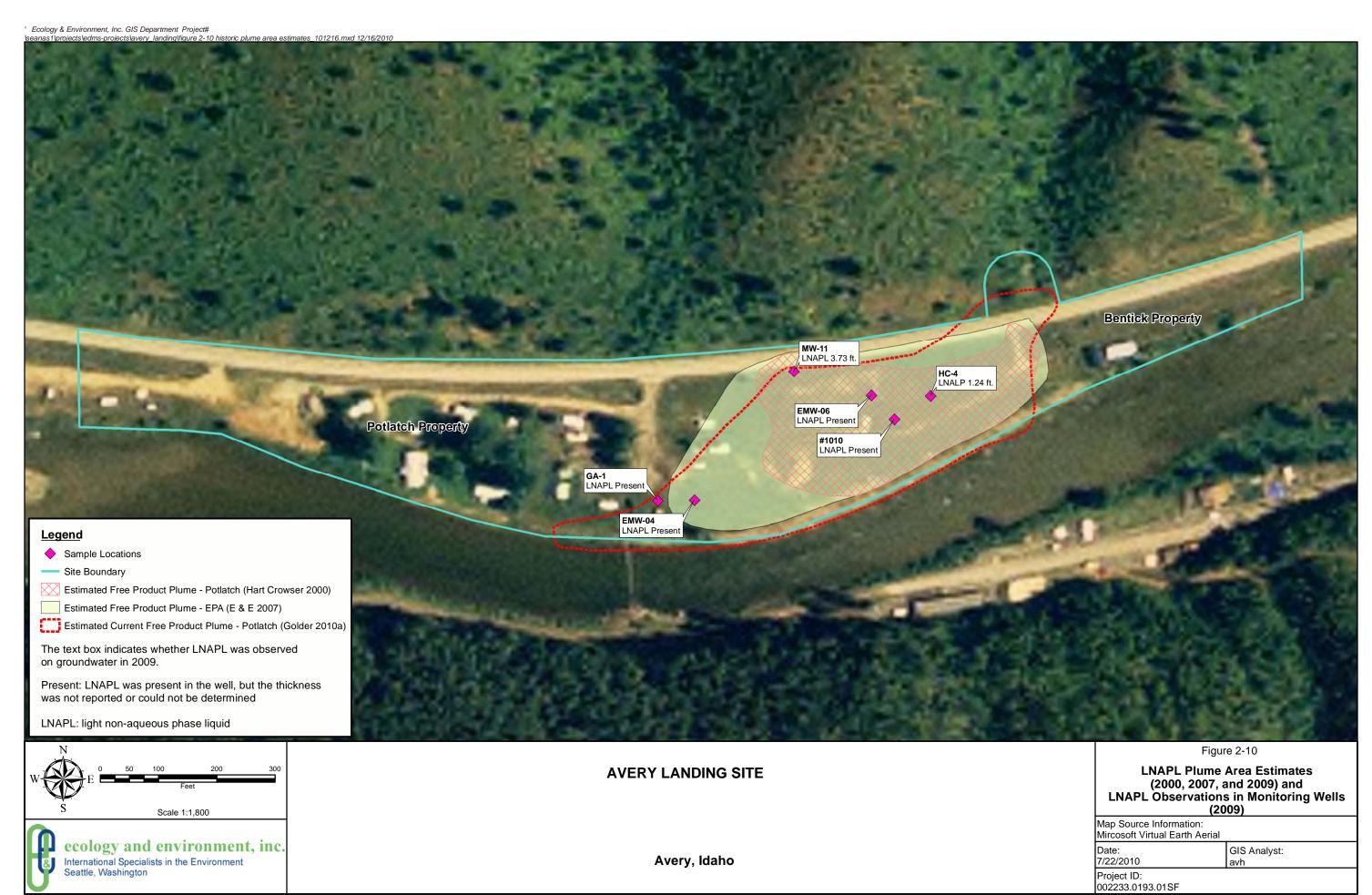
International Specialists in the Environment Seattle, Washington

AVERY LANDING SITE Avery, Idaho

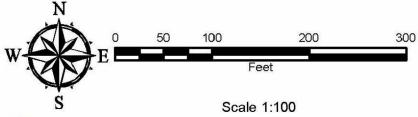
ESTIMATED FREE PRODUCT PLUME IN 2000 AND HISTORIC MAXIMUM PRODUCT THICKNESSES

Date: Drawn by: AES	10:START-3\08050006\fig 2-8
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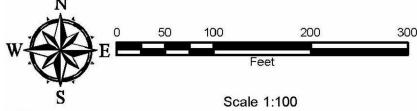






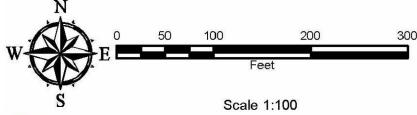




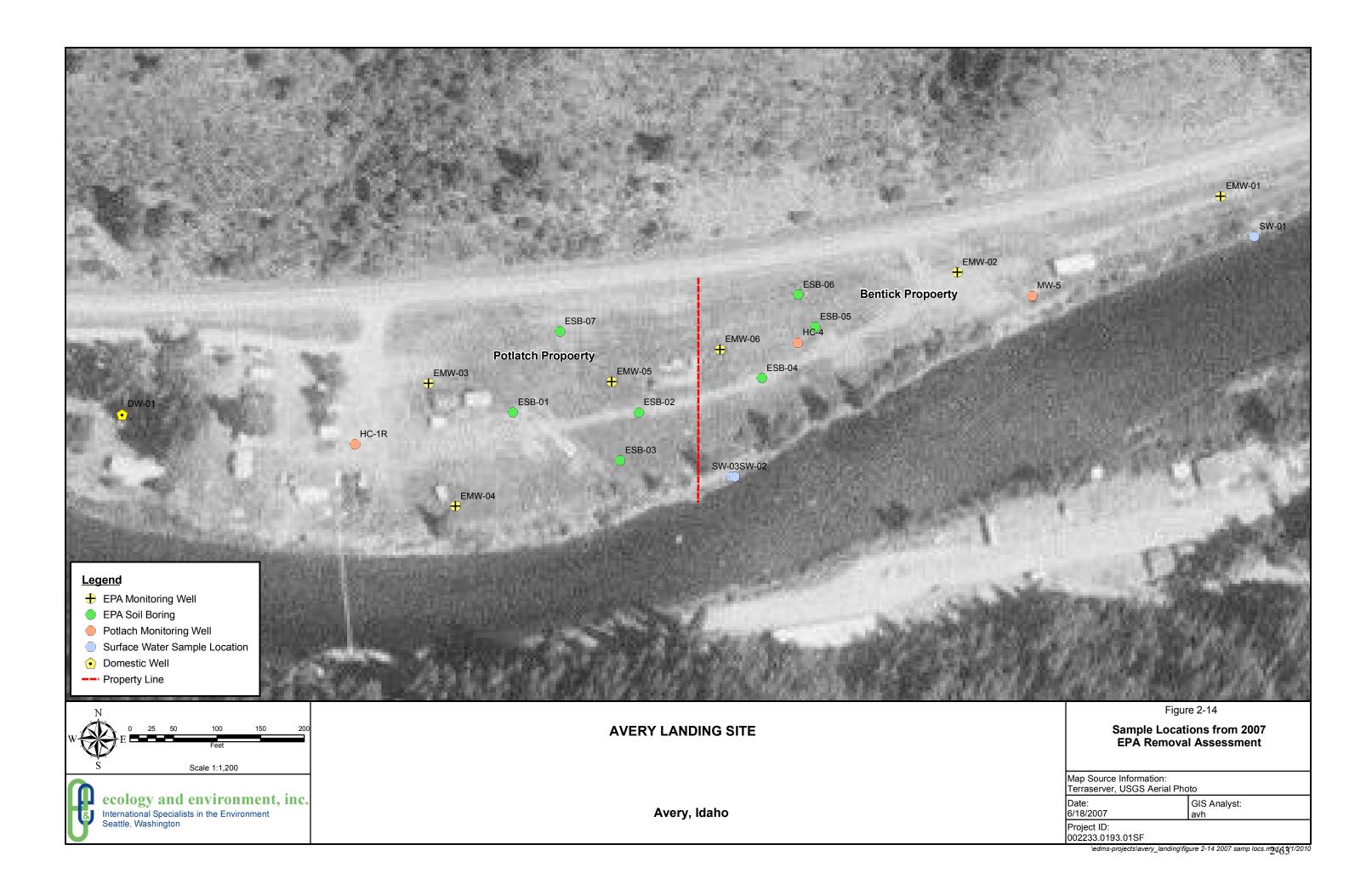


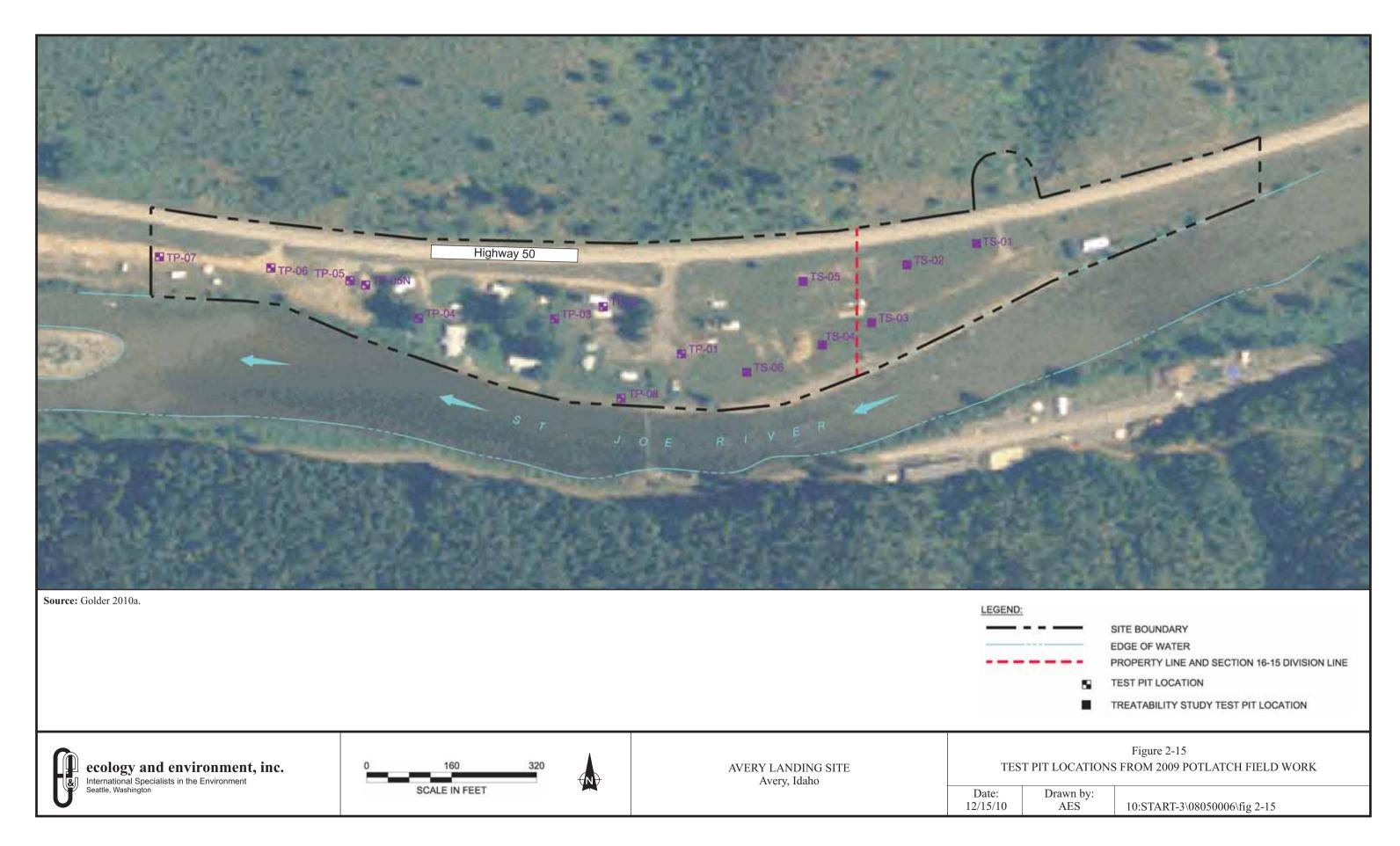


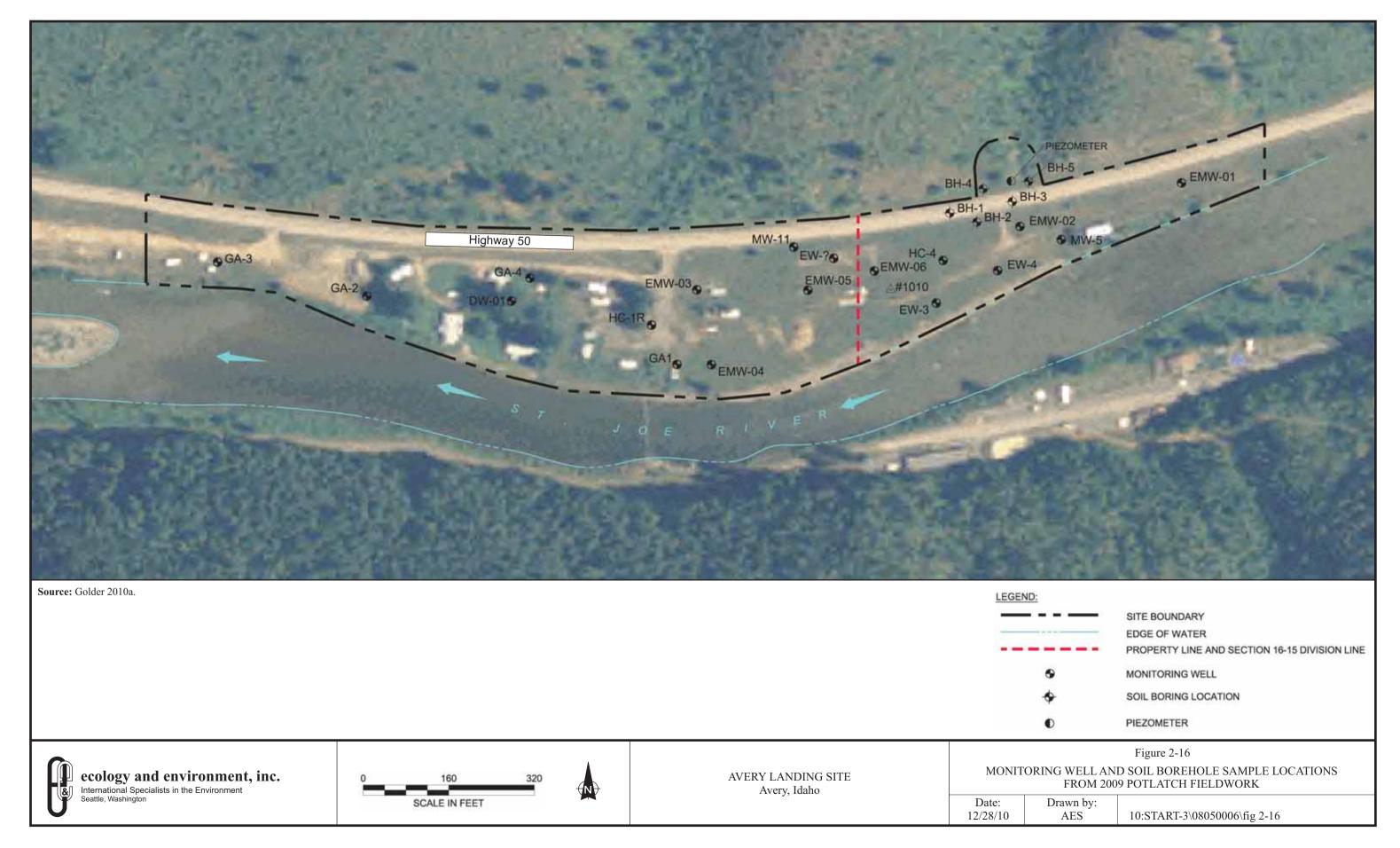












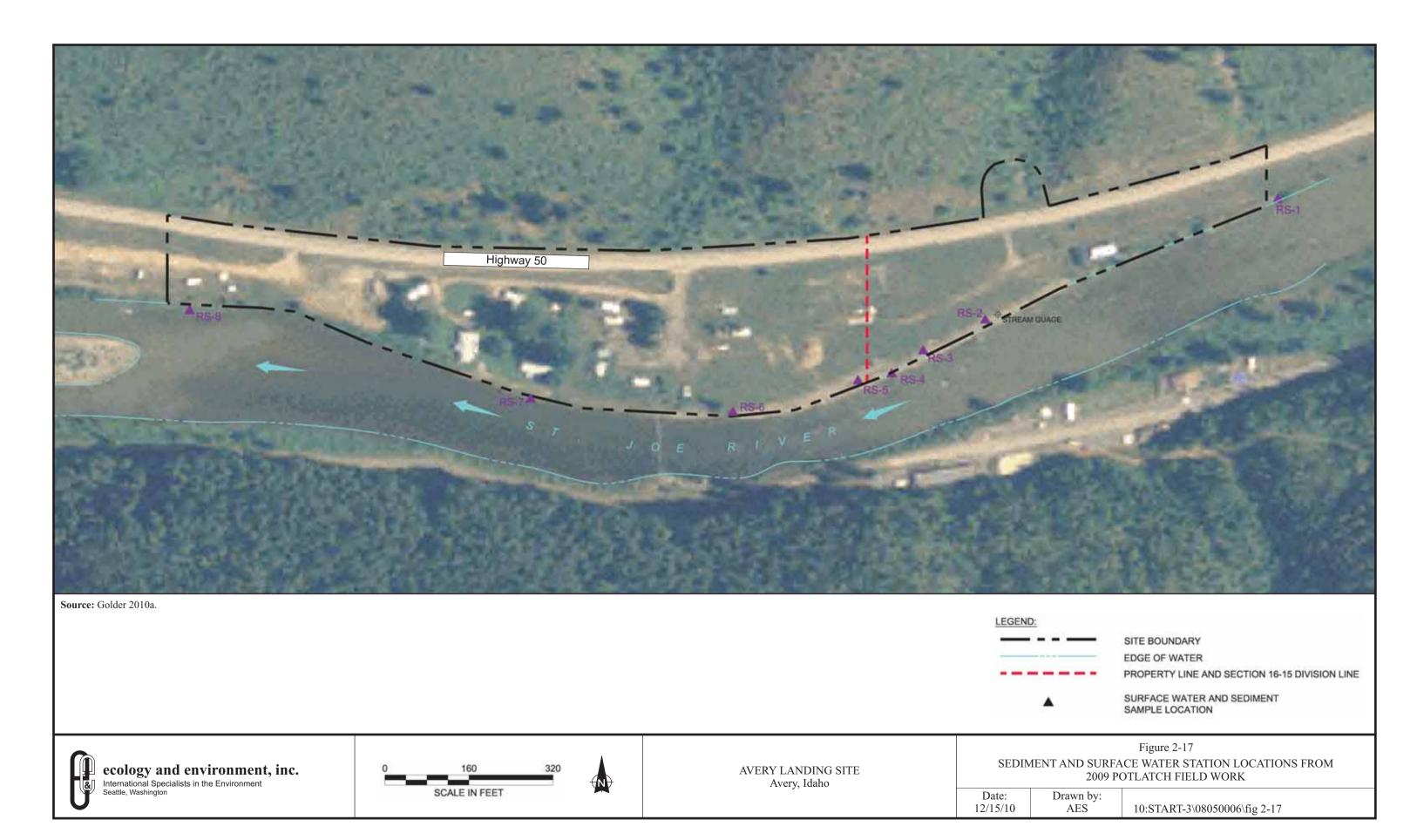
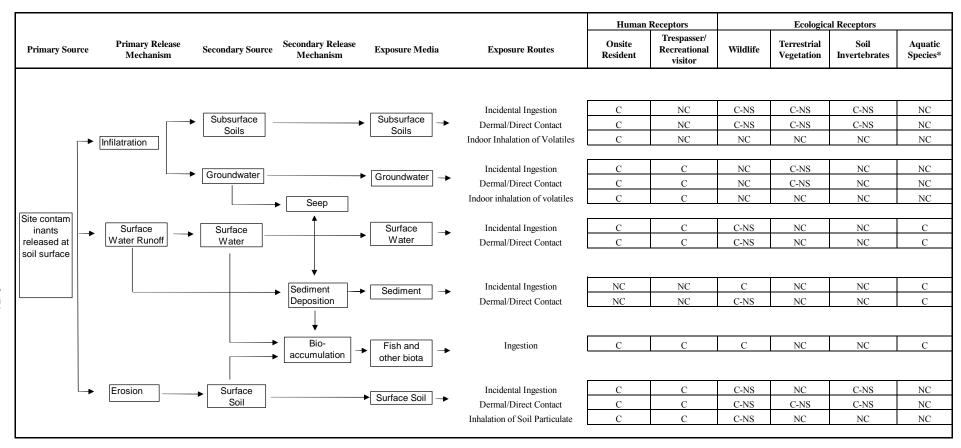


Figure 2-18
Conceptual Site Model for Human and Ecological Risk Evaluation
Avery Landing Site, Avery, Idaho



Key:

NC = Not a complete exposure pathway

C = Exposure pathway is complete or potentially complete

C-NS = Exposure pathway may be complete but significant exposure is not likely to occur

3 Identification of Removal Action Objectives

This section presents the objectives for the proposed removal action. In addition, this section includes a description of the statutory limits on removal actions, the scope of the removal action, a description of compliance with potential applicable or relevant and appropriate requirements, and the general schedule for removal activities.

3.1 Statutory Considerations on Removal Actions

To the extent that a private entity undertakes the proposed CERCLA removal action, the CERCLA-related statutory limits discussed below for EPA-financed removal actions do not apply.

CERCLA Section 104(c)(1) set limits of \$2 million and 12 months for EPA-financed removal actions. Cost and implementation time exemptions may be granted if EPA determines that the removal action is necessary to mitigate an immediate risk to human health, welfare, or the environment or that the removal action is otherwise appropriate and consistent with anticipated long-term remedial action. EPA funds expended to conduct an EE/CA are CERCLA §104(b)(1) monies and are not counted toward the \$2 million statutory limit for removal actions.

To the extent that the removal action, or any portion thereof, is to be performed by EPA pursuant to the CWA, the funding for this work is administered by the United States Coast Guard.

3.2 Determination of Removal Scope and Objectives

3.2.1 Removal Action Scope

The scope of the proposed removal action is to prevent the discharge of petroleum product to the St. Joe River and to reduce hazardous substances to acceptable human health and ecological risk-based concentrations at the Site.

The scope corresponds to the following removal factors identified in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP):

- 40 C.F.R. § 300.415(b)(2)(i) which identifies "actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;" and
- 40 C.F.R. § 300.415(b)(2)(ii) which identifies "actual or potential contamination of drinking water supplies or sensitive ecosystems."

3.2.2 Removal Action Objectives

Based on the scope of the removal action, the following removal action objectives have been developed for the Site:

- Remove the existing non-functioning groundwater containment, collection, and extraction system;
- Remove any petroleum product and hazardous substances from the St. Joe River bank;
- Reconstruct the St. Joe River bank;
- Remove, treat, and/or manage petroleum free product that is present as LNAPL on surface water or groundwater at greater than one-tenth (0.1) inch;
- Remove, treat, and/or manage soil and sediment contaminated by the petroleum free product and hazardous substances to prevent human and ecological exposures to risk-based concentrations by direct contact and incidental ingestion;
- Dispose of waste streams in accordance with CERCLA's Off-site Rule requirements.

These objectives will be achieved by meeting specified cleanup levels while working within the statutory limits and attaining potential applicable or relevant and appropriate requirements (ARARs) to the extent practicable.

3.3 Applicable or Relevant and Appropriate Requirements

Potential ARARs have been screened to aid in technology and alternative evaluation. For the removal action, on-Site actions are to comply with the substantive requirements of any identified ARARs, to the extent practicable considering the exigencies of the situation. On-Site actions do not have to comply with the corresponding procedural requirements such as permit applications, reporting, and recordkeeping. Off-Site actions are to comply with ARARs to the extent practicable considering the exigencies of the situation.

ARARs are divided into the following categories:

- Chemical-specific requirements are health- or risk-based concentration limits or ranges in various environmental media for specific hazardous substances, pollutants, or contaminants.
- Action-specific requirements are controls or restrictions on particular types of
 activities, such as hazardous waste management or wastewater treatment.

 Examples of action-specific requirements would be state and federal air emissions
 standards as applied to an in situ soil vapor extraction treatment unit.
- **Location-specific requirements** are restrictions on activities that are based on the characteristics of a Site or its immediate environment. An example would be restrictions on work performed in wetlands or wetland buffers.

Additionally, to-be-considered (TBC) materials are advisories, criteria, guidance or policy documents, and proposed standards that are not legally binding, but that may provide useful information or recommended procedures relevant to a cleanup action. The potential chemical-, location-, and action-specific ARARs and TBC materials for the EE/CA are summarized in Appendix E.

3.4 Determination of Removal Schedule

The general schedule for removal activities, including both the start and completion time for the non-time-critical removal action, will be subject to determinations to be made by EPA.

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4 Identification of Removal Action Alternatives

To achieve the RAOs established for the Avery Landing Site, a range of potential cleanup options and engineering controls were considered, including groundwater pump and treatment and bioremediation (i.e., land application). These alternatives were considered impracticable for the Site because of various engineering and technical reasons and thus were not included in the alternatives evaluated herein. Additionally, EPA considered an upgraded containment and LNAPL recovery system, similar to the systems previously installed and operated by Potlatch. However, given that these systems have not been successful at preventing petroleum discharges to the St. Joe River, this potential alternative was not included in the EE/CA.

Based on the Site-specific circumstances and RAOs, the following engineering and treatment technology alternatives were developed for the Site:

Alternative A1 – No Action

Alternative A2 – LNAPL Extraction and Ex Situ Thermal Desorption of Soils

Alternative A3 – LNAPL Extraction and Ex Situ Soil Washing

Alternative A4 – LNAPL Extraction and Off-Site Disposal

These alternatives are also summarized in Table 4-1.

A number of design assumptions must be made to fully develop and evaluate each alternative. These design assumptions are applicable to the technologies proposed in the individual alternatives. However, as additional information is obtained, the underlying assumptions may not necessarily be the same as those used as the basis for the final design and specifications.

4.1 Common Components of Alternatives

With the exception of Alternative A1 (No Action), each of the removal action alternatives listed above has common construction and/or required actions. In this subsection, these common components are identified and described. The common components are also listed in Table 4-2.

4.1.1 Excavation and LNAPL Removal

All of the alternatives except the no action alternative involve the physical removal of soil containing the COCs above the established cleanup objectives. For these alternatives, the following procedures would be implemented.

The clean overburden present above the zone of contamination would be excavated, stockpiled on Site, and subsequently used for backfill operations upon completion of excavation. Based on existing data, it is assumed that excavation would extend to a depth of approximately 2 feet below the seasonal low groundwater level, or to an average depth of 17 feet bgs. To minimize dewatering, soil below the water table would be removed during periods of low water levels

(summer and fall). Excavation of the contaminated soils will be initiated in the upgradient portion of the LNAPL plume area and completed in the downgradient portion to prevent recontamination of backfilled soils.

LNAPL encountered with the groundwater in the excavation would be pumped and treated via a large-scale, portable (i.e., trailer mounted) oil/water separator with carbon filter polishing. The oil/water separator would be operated to remove free product prior to completion of excavation work. Oil phase contaminants from the separator would be disposed of at an appropriate off-Site treatment and/or recycling center. The detailed design will further specify the method for dewatering and disposal of the captured product. Treated groundwater from LNAPL extraction activities would be discharged to the St. Joe River and/or allowed to passively infiltrate into the soil.

Prior to backfilling, confirmation soil samples would be collected to determine compliance with the cleanup objectives or whether additional soil removal would be necessary. Excavated areas would then be backfilled with stockpiled overburden and/or clean backfill and covered with approximately six inches of topsoil and stabilized once final grading were complete. The detailed design will specify areas for stockpiling, and outline the sampling frequency and analytes required to determine suitability for backfilling.

For purposes of this EE/CA, it is assumed that:

- The St. Joe River Road may undergo temporary lane closures to allow for excavation of the road and contaminated soils underneath, if required. The road would be reconstructed pursuant to federal and/or state requirements.
- Approximately 90,770 cubic yards of clean overburden soil will be excavated from the Site, stockpiled, and reused as backfill.
- Side slopes for excavations would be laid back at 1.5H:1V for stability. As a result of side slope excavation activities, an additional estimated 17,000 cubic yards of clean soil would be excavated, stockpiled, and reused as backfill.
- Soil in the removal area would be excavated down to 2 feet below the seasonal low groundwater table or to an average depth of 17 feet bgs.
- Approximately 47,000 cubic yards of contaminated soil would be excavated and treated. This volume was based on the cross sections of the plume area and the three discrete locations discussed in Section 2.4.2.

Removal options to address contaminated soil include ex situ thermal desorption, soil washing, and off-Site disposal. These treatment options are presented and developed in Alternatives A2, A3, and A4, respectively. A schematic diagram of the excavation/backfill design common to these three alternatives is shown in Figure 4-1.

4.1.2 Existing Treatment/Recovery System and Debris Removal

As part of all removal alternatives, except for the No Action alternative, the existing geomembrane barrier and collection trench, as well as debris from historical Site operations, would be removed and disposed of at an appropriate off-Site facility. This would allow for the excavation and cleanup of the St. Joe River bank.

4.1.3 Bank Reconstruction

As part of all removal alternatives, except for the No Action alternative, the shoreline would be excavated to address LNAPL contamination. Disposition of the removed materials would be as follows:

<u>Clean Riprap</u>: Based on field observations, the upper 12 vertical feet of the existing riprap is free of contamination. This clean riprap would be hauled to an on-Site area west of the removal area and stockpiled for later reuse.

<u>Contaminated Riprap</u>: For the purpose of the cost estimate, the lower 3 vertical feet of the existing riprap is assumed to be contaminated. This material would be hauled to a geomembrane-lined treatment area and steam cleaned and/or pressure washed to remove the contamination. It would then be stockpiled with the clean riprap for later reuse.

<u>Foundations</u>: Based on historical records, it is possible that reinforced concrete foundations from former railroad structures would be encountered during soil removal. These foundations would be broken into manageable-sized pieces. Reinforcing steel, if present, would be removed and salvaged where practicable. The larger concrete fragments would be cleaned, if necessary, and stockpiled with the riprap for future use. Smaller fragments would be used as backfill, if clean, or would be handled as contaminated soil.

<u>Geosynthetics</u>: Geomembrane and geotextile from previous cleanup activities would be removed and disposed of in a permitted off-Site facility. For purposes of this EE/CA, it is assumed that the nearest suitable disposal facility is the Waste Management Graham Road Landfill in Medical Lake, Washington, at a road distance of about 125 miles from the Site.

Non-Contaminated Soils: For alternatives that include treatment, excavated soil would be evaluated in the field to determine whether it contained LNAPL at levels exceeding Idaho standards (i.e., more than 0.1 inch on groundwater). Any soil containing visible LNAPL or exhibiting a sheen in groundwater will be treated. Excavated soil not requiring treatment would be stockpiled on Site for later use as backfill.

The slope of the new shoreline along the river would be protected from erosion by replacing the 5-foot-thick riprap layer (see Figure 4-1, Stage 4) with cleaned riprap and foundation fragments.

Shoreline reconstruction activities would occur during the seasonal low river elevation period. To facilitate bank reconstruction activities, a temporary dam-like structure will be constructed to exclude water from the excavation.

4.1.4 Stabilization of Disturbed Areas

At the conclusion of removal alternatives A2, A3, and A4, any backfilled and disturbed areas would be graded and stabilized to prevent erosion and sedimentation.

4.1.5 Best Management Practices

Erosion and sediment control and housekeeping Best Management Practices (BMPs) will be implemented as part of removal alternatives A2 through A4. BMPs would provide for protection

of workers, the community, and the environment during all construction activities. Specific BMPs would be detailed in the final design.

4.1.6 Institutional Controls

Institutional controls (ICs) will be imposed to assure the continued protection of human health or the environment. ICs are legal and administrative tools such as restrictive covenants and well drilling prohibitions, and will be determined post-removal activities.

4.1.7 Post-Removal Action Monitoring

Monitored natural attenuation would be used as a finishing option to mitigate any residual amount of contaminants remaining in groundwater once the source area LNAPL is excavated. Regular long-term groundwater monitoring would be implemented to confirm and monitor for the progress of natural attenuation processes to reduce contaminant concentrations to below cleanup objectives. The detailed design and subsequent development of the post-removal Site care plan will identify the necessary analytical parameters, sampling frequency and reporting requirements.

4.2 Identification of Removal Action Alternatives

4.2.1 Alternative A1: No Action

Under this alternative, no action would be taken to remove, treat, or contain contaminated soils, groundwater, sediment, or surface water at the Avery Landing Site. Hazardous substances would remain as potential human health and environmental threats, and petroleum would continue to discharge into the St. Joe River. Natural processes would be expected to degrade contaminants in Site media but not a rate fast enough to protect human health and the environment.

4.2.2 Alternative A2: LNAPL Extraction and Ex Situ Thermal Desorption of Soils In this alternative, soil having contaminant concentrations that exceed cleanup objectives would be excavated and transported to a soil stockpile area located on Site, followed by desorption of the contaminants from the soil matrix using a mobile low-temperature thermal desorption (LTTD) unit.

LTTD, also known as low-temperature thermal volatilization, thermal stripping, and soil roasting, is an ex situ cleanup technology that uses heat to physically separate volatile contaminants from excavated soils. Thermal desorbers are designed to heat contaminated soils in a chamber using electricity, propane, or natural gas, thereby volatilizing the moisture and organic contaminants. LTTD desorbs organic compounds without heating the soil to combustion temperatures. The vaporized contaminants are treated in a secondary treatment unit (e.g., an afterburner, catalytic oxidation chamber, condenser, or carbon adsorption unit) prior to discharge to the atmosphere. The thermally treated soil is then moved into a conditioner, where it is sprayed with water to cool it and minimize fugitive dust emissions. After cooling, the treated soil is stockpiled for analysis and reused as backfill. A schematic diagram of the LTTD process is shown in Figure 4-2. The feed rate, desorption temperature, and residence time of the materials in the chamber dictate the type of contaminants removed, as well as the degree to which the contaminants are removed.

With LTTD treatment, there is a potential for some contaminants with volatilization temperatures above the LTTD operating temperatures to remain in the soil/waste mixture. PCB contaminants would not be treated with LTTD treatment. However, PCB soil concentrations are below screening levels. Following treatment, the treated soil would be tested for the analytical parameters of concern, and assuming that the soil meets soil cleanup standards, the treated soil would be re-used on-Site. Soil not meeting cleanup objectives would be disposed of at an off-Site disposal facility that accepts PCB-contaminated soil. The LTTD system is designed to treat organic contaminants with boiling points less than 500 °F, and soil with less than 15% moisture content. Moisture content can be lowered in the waste feed preparation process if necessary. Most thermal units readily treat coarse-grained soils, but require longer processing times and consequently lower throughput rates for materials with high silt and clay contents.

LTTD units are either fixed or mobile, depending on their size and operating requirements. A mobile unit would be used at the Avery Landing Site. Thermally treated soil that meets cleanup objectives would be used to backfill the excavation. For cost estimating purposes, it was assumed that 10% of the soil would require retreatment using LTTD to meet cleanup objectives. It was also assumed that 10% of the contaminated soil would be untreatable and sent off Site for disposal.

Excavated areas would be backfilled with clean gravel prior to soil backfill. Gravel would be placed below the groundwater surface and soil would be placed above the gravel to allow for proper soil compaction. Soils not meeting cleanup objectives after treatment would be sent off-Site for disposal. Gravel and any additional backfill soil needed would be obtained from a nearby commercial gravel and soil yard.

During treatment activities, air monitoring would be conducted pursuant to Occupational Safety and Health Administration (OSHA) and National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations to ensure that workers and the public are not exposed to Site contamination above allowable levels. Air emission standards and potentially required air pollution control equipment could become a substantial cost and performance factor for on-Site LTTD

Based on the soil volumes requiring treatment, and an overall average feed rate of 20 tons per hour, it is estimated that this alternative would require approximately 6.5 months from the time of mobilization to the time of demobilization. However, this time frame could be extended because bench or pilot treatability investigations may be required to determine optimal performance and operating parameters.

The LTTD cost estimate assumes that a total of 350 confirmation samples would be collected and analyzed for COCs during the anticipated 5-month treatment time. In addition, air samples would be collected monthly from one upwind and two downwind monitoring points to determine emission concentrations of COCs from the LTTD unit operation.

4.2.3 Alternative A3: LNAPL Extraction and Ex Situ Soil Washing

In this alternative, excavated soil not meeting cleanup criteria would be treated using soil washing. Soil washing is an ex situ treatment that consists of a combination of size separation

and water washing to remove hazardous substances and petroleum product from soil and concentrates them into a smaller volume. Surfactants would be used in conjunction with water to enhance contaminant removal. Backfill material would consist of both the treated soils meeting cleanup criteria and the clean soil overburden that was stockpiled during the process of accessing the contaminated material. Excavated areas would be backfilled with clean gravel prior to soil placement. Gravel would be placed to fill the excavation to just above the groundwater surface. Treated and/or clean soil would be placed above the gravel and then compacted. Soils not meeting cleanup objectives after treatment would be sent off-Site for disposal. Gravel and any additional backfill soil needed would be obtained from a nearby commercial gravel and soil yard.

A process flow diagram for soil washing is shown in Figure 4-3. The treatment process is further described in the treatability study report written by ART Engineering (ART 2009; Appendix F). The treatment effectiveness, based on the Site-specific treatability study, is also presented in the ART report. Based on the treatability study results, it is anticipated that water with surfactant would be used

In the soil washing treatability study, wash water was successfully treated to remove soil fines and dispersed hydrocarbon. This would allow for the full-scale plant to be designed as a closed-loop system in which the water was continuously treated and reused. Upon completion of soil washing, any residual wash water would be treated and discharged by spreading on the treated soils.

According to the ART Engineering treatability study report, soil washing would produce residual filter cake (approximately 8% of treated soil volume) that would require further treatment or off-Site disposal.

Based on the soil volumes requiring treatment, and an overall estimated average production rate of 50 to 60 tons per hour (ART 2009, Appendix F), it is estimated that this alternative would require approximately 3.5 months to from the time of mobilization to the time of demobilization. However, this time frame could be extended because bench or pilot treatability investigations may be required to determine optimal performance and operating parameters.

4.2.4 Alternative A4: LNAPL Extraction and Off-Site Disposal

Under this alternative, contaminated soil not meeting cleanup criteria would be excavated, loaded into haul trucks, and transported to a CERCLA-approved off-Site disposal facility.

PCB-contaminated soil would be excavated and segregated from the non-PCB contaminated soil, loaded into haul trucks, and transported to an off-Site non-hazardous waste disposal facility that accepts PCB-contaminated soil. For purposes of this EE/CA, it is expected that the nearest suitable disposal facility for PCB-contaminated soil is the Waste Management Wenatchee Landfill in Wenatchee, Washington, at a road distance of about 280 miles from the Site. Approximately 15,600 cubic yards of PCB contaminated soil would be excavated and disposed of at a landfill. This volume was determined by analyzing data for PCB contamination and delineating PCB areas where PCB contamination was encountered. For purposes of this EE/CA, the depth of PCB contamination in these areas was assumed to be the Site-wide average excavation depth of 17 feet.

Excavated areas would be backfilled with clean gravel and soil obtained from a nearby commercial gravel yard. Gravel would be placed below the groundwater surface and soil would be placed above the gravel to allow for proper soil compaction.

Excavation is an effective method for physically removing contaminated subsurface material from the Site. Excavation involves the use of standard construction equipment. There are few limitations on the types of waste that can be excavated and removed.

Based on the estimated volume of soil that exceeds cleanup criteria, it is estimated that this alternative would require approximately 3.5 months from the time of mobilization to the time of demobilization.

Table 4-1 Removal Action Alternatives

Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Removal Action Alternatives

Removal Methon Mittinatives			
Alternative	Description		
A1	No Action		
A2	LNAPL Extraction and Ex Situ Thermal Desorption (LTTD) of Soils		
A3	LNAPL Extraction and Ex Situ Soil Washing		
A4	LNAPL Extraction and Off-Site Disposal		

Key:

LNAPL = light non-aqueous phase liquid LTTD = low-temperature thermal desorption

4-6

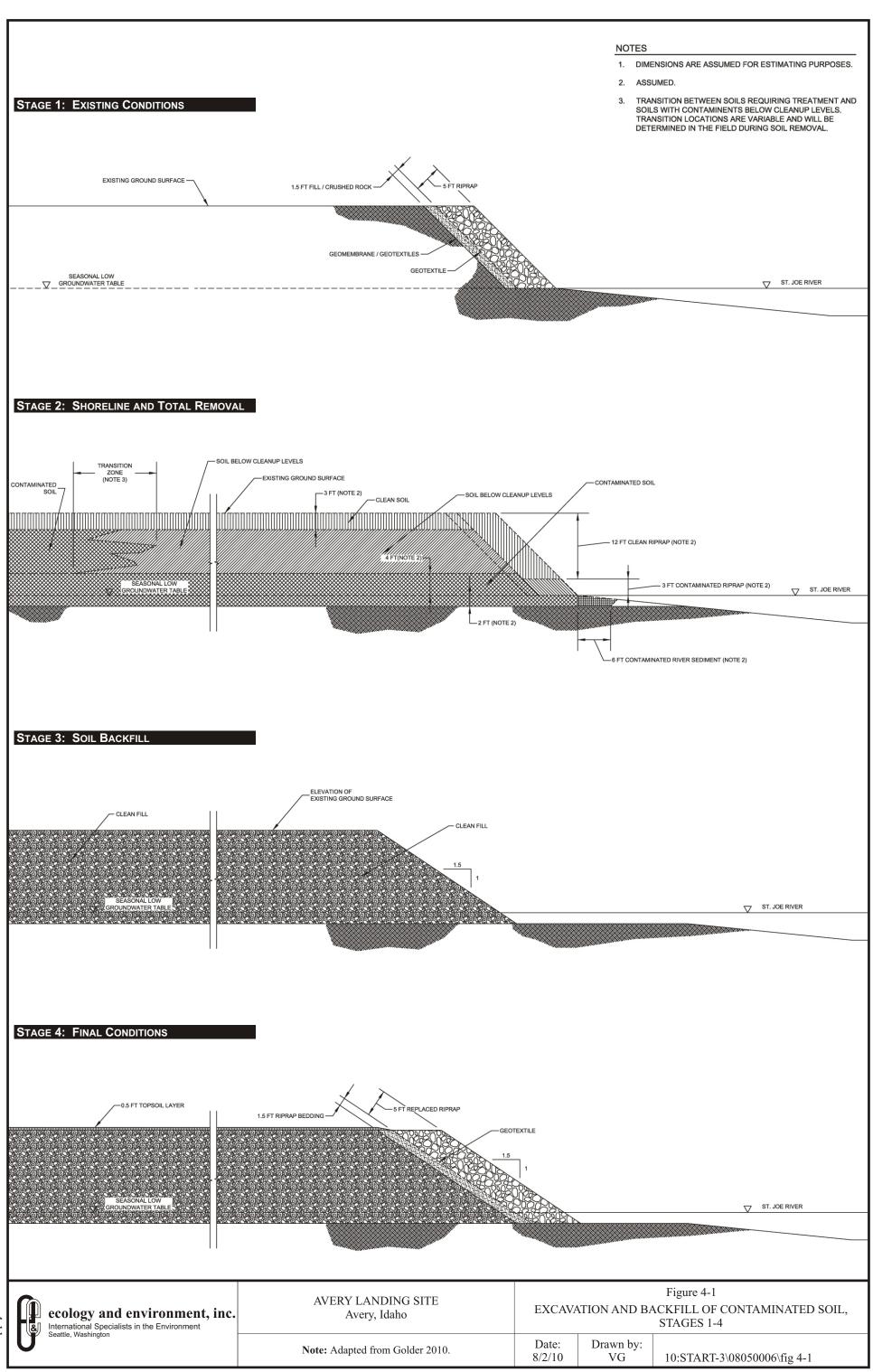
Table 4-2 Common Components of Removal Action Alternatives Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

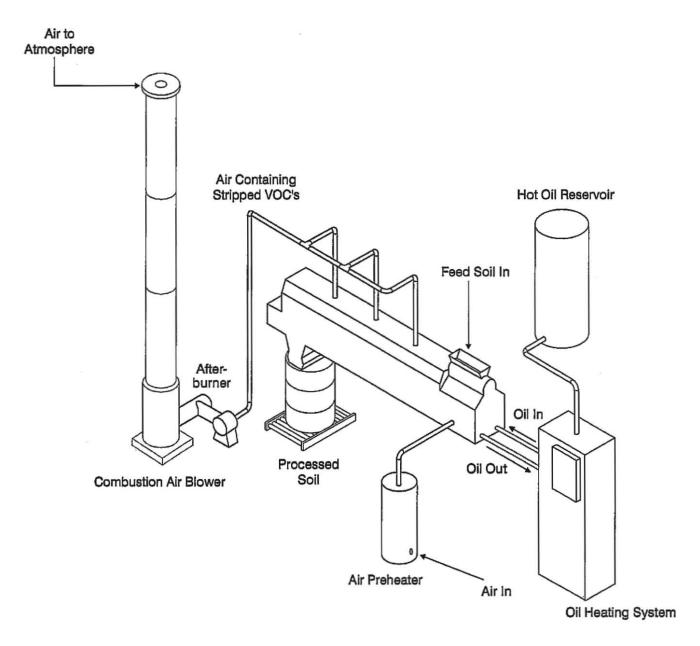
Common Components			
Description	Applicable Alternative		
1. Excavation and LNAPL removal	A2, A3, and A4		
2. Existing treatment/recovery system and debris removal	A2, A3, and A4		
3. Bank reconstruction	A2, A3, and A4		
4. Stabilization of disturbed areas	A2, A3, and A4		
5. Best management practices	A2, A3, and A4		
6. Institutional controls	A2, A3, and A4		
7. Post-removal action monitoring	A2, A3, and A4		

Key:

LNAPL = light non-aqueous phase liquid

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International Specialists in the Environment Seattle, Washington

AVERY LANDING SITE Avery, Idaho

Source: RS Means 2004.

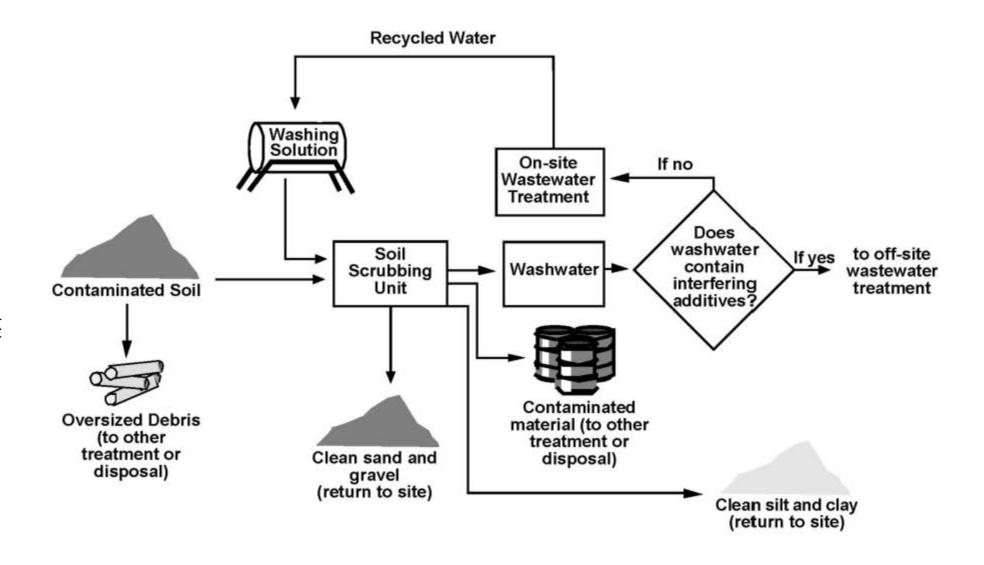
Figure 4-2 PROCESS SCHEMATIC FOR FULL-SCALE LOW-TEMPERATURE THERMAL DESORPTION

Drawn by: Date:

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AES

10:START-3\08050006\fig 4-2



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AVERY LANDING SITE Avery, Idaho

Figure 4-3
PROCESS FLOW DIAGRAM FOR
FULL-SCALE SOIL WASHING

Source: EPA 1996.

Date: Drawn by:

12/1/10 AES 10:START-3\08050006\fig 4-3

5 Individual Analysis of Removal Action Alternatives

This section presents an individual analysis of the alternatives based on the short- and long-term effectiveness of each alternative relative to preventing discharges to surface waters and shorelines of the United States and to overall protection of public health and the environment. Three broad criteria—effectiveness, implementability, and cost—are used to evaluate each alternative against the scope of the removal action, and these criteria are described below.

Effectiveness

Effectiveness includes several evaluation factors, which are defined below.

Overall Protection of Human Health and the Environment: Assesses the ability of the alternative to be protective of human health and the environment under present and future land use conditions.

Compliance with ARARs: Identifies whether or not implementation of the alternative would comply with all chemical-specific, action-specific, and location-specific ARARs and TBC materials.

Long-term Effectiveness: Addresses the magnitude of residual risk remaining at the conclusion of removal activities; that is, addresses the adequacy and reliability of controls established by a removal action alternative to maintain reliable protection of human health and the environment over time

Reduction of Toxicity, Mobility, and Volume through Treatment: Identifies whether or not implementation of the alternative would reduce contaminant toxicity (e.g., reduction of LNAPL contamination), mobility (e.g., preventing contaminated soil from reaching human receptors), or actual volume of the hazardous substances.

Short-term Effectiveness: This criterion addresses the effects of an alternative during the construction and implementation phase until the removal objectives are met. This criterion includes the time with which the remedy achieves protectiveness and potential to create adverse impacts on human health and the environment during construction and implementation.

Implementability

Implementability is evaluated in accordance with the criteria defined below.

Technical Feasibility: Evaluates construction and operational considerations, as well as demonstrated performance/useful life.

Administrative Feasibility: Evaluates activities such as statutory limits, permitting requirements, easements/rights of ways, and impact on adjoining property.

Availability of Service and Materials: Considers the availability of qualified contractors to handle Site preparation, design, equipment, personnel, services and materials, excavation, disposal capacity, and transportation in time to maintain the removal schedule, as well as the availability of disposal facilities that are licensed to accept hazardous and non-hazardous liquid/solid waste.

State Acceptance: Considers whether IDEQ is likely to concur with the proposed alternatives.

Community Acceptance: Considers level of stakeholder acceptance of the proposed alternatives.

Cost

Summaries of the alternative costs (except for the No Action alternative) are provided in Tables 5-1 through 5-3, and assumptions and references for the cost estimates are included in Appendix G. Each removal action alternative was evaluated to determine its project cost. The cost estimates contain the capital cost and annual operational and maintenance costs. The cost estimate for each component of the proposed alternatives is based on assumptions provided in this section and in Appendix G.

Costs are based in part on the estimated LNAPL plume area and the estimated 47,000 cubic yards of contaminated soil. Because of uncertainties about the exact amount of contaminated material and other uncertainties, actual cleanup costs may be expected to range by an approximate factor of $\pm 20\%$.

The present worth should be calculated for alternatives that will last longer than 12 months (EPA 1993). Under this EE/CA, removal action alternatives A2, A3, and A4 will require approximately 6 months or less of operation; therefore, present worth is not required for those alternatives.

5.1 Alternative A1: No Action

The No Action alternative was evaluated to provide a baseline to which other alternatives can be compared. Under this alternative, no action would be taken to reduce contaminant concentrations in affected Site media.

Effectiveness

This alternative does not remove or provide containment of any COC and does not meet the RAOs. Contaminant concentrations and existing and future risks to human health and the environment would remain unchanged. Petroleum product would continue to discharge to the St. Joe River.

Overall Protection of Human Health and the Environment: Under this alternative, no engineering or institutional controls will be implemented to address potential exposure pathways or to reduce contaminant concentrations in affected Site media. As a result, there will be no measurable contaminant reduction fast enough to protect human health and the environment.

Compliance with ARARs: This alternative is not compliant with ARARs or TBC materials.

Long-Term Effectiveness and Permanence: This alternative would leave contaminated soil in place which will result in unacceptable risks to human health and the environment. Natural processes will likely mitigate Site contaminants but at an unacceptable rate of degradation.

Reduction of Toxicity, Mobility, or Volume through Treatment: This alternative provides no reduction of toxicity, mobility, or volume through treatment. Natural processes will likely mitigate Site contaminants but at an unknown rate of degradation. ICs would not be implemented to protect human health and the environment while natural processes occurred.

Short-Term Effectiveness: There are no short-term risks associated with this alternative because there are no cleanup actions to be implemented.

Implementability

This alternative is readily implementable since there are no administrative or engineering actions to be implemented, administrative coordination is not required, and services or materials are not required..

Cost

There are no costs associated with this alternative.

5.2 Alternative A2: LNAPL Extraction and Ex Situ Thermal Desorption of Soils

This alternative involves the excavation of soil containing COC above cleanup objectives, followed by ex situ thermal desorption treatment for soil. LNAPL encountered on the surface of the groundwater during excavation activities will be pumped and treated by an oil/water separator and carbon polishing unit. The cleanup objectives will be protective for industrial, commercial, and/or occasional use by a recreational visitor.

Effectiveness

Alternative A2 will provide adequate protection of human health and the environment. The contaminated soil will be excavated and treated by LTTD, and excavated areas will be backfilled with the treated soils. LNAPL encountered during excavation activities will be pumped and treated using an oil/water separator and carbon polishing. Treatment residuals and/or PCB-containing materials will be disposed off Site at an appropriate disposal facility.

Overall Protection of Human Health and the Environment: Because this alternative involves excavation and LTTD treatment of contaminated soil, it will reduce potential risks to human health and the environment. Exposure pathways are eliminated with the Site-wide excavation and LTTD treatment of contaminants that exceed cleanup objectives.

Compliance with ARARs: This alternative would attain ARARs and TBC materials to the extent practicable.

Long-Term Effectiveness and Permanence: Under this alternative, the treatment residuals would be minimized at the conclusion of cleanup activities. The contaminated soil would be

excavated and treated by LTTD, and LNAPL would be treated using an oil/water separator and carbon polishing. Treatment residuals would be disposed of off Site at an appropriate disposal facility. ICs would be implemented to provide for long-term protectiveness to monitor the progress of natural attenuation processes.

Reduction of Toxicity, Mobility, or Volume: The toxicity, mobility, and volume of contaminants would be reduced through LTTD treatment. Heating the contaminated soils to temperatures sufficient to cause constituents to volatilize and desorb from the soil would reduce the overall volume of contaminated material. The vaporized constituents would be treated in a secondary treatment unit prior to discharge to the atmosphere. Condensers and carbon unit would trap organic compounds for subsequent treatment or disposal.

Short-Term Effectiveness: The potential for short-term impacts to workers and the surrounding community would be addressed by engineering controls and BMPs. Vaporized constituents would be treated by a secondary air treatment unit prior to discharge to the atmosphere. A Site-specific health and safety program would be implemented to protect workers. Potential environmental impacts such as erosion and sedimentation and fugitive dusts would be addressed by BMPs.

Implementability

LTTD utilizes readily available equipment. Commonly used earth-moving equipment and Site work procedures would be employed to excavate and transport contaminated soil and to place, contour, and stabilize the clean backfill and topsoil. Soils excavated from below the groundwater table require dewatering prior to treatment because of high moisture content. On-Site treatment requires significant land area to locate LTTD unit and store processed soils. The time required to implement this alternative may be lengthy because bench or pilot treatability investigations may be required to determine optimal performance and operating parameters, and because of design considerations associated with scaling up to full-scale operation.

Cost

The estimated cost is \$10,540,000 (Table 5-1).

5.3 Alternative A3: LNAPL Extraction and Ex Situ Soil Washing

This alternative involves the excavation of soil containing COC above cleanup objectives, followed by ex situ soil washing to remove the contaminants. The cleanup objectives will be protective for industrial, commercial, and/or occasional use by a recreational visitor.

Effectiveness

Alternative A3 will provide adequate protection of human health and the environment. The contaminated soil would be excavated and treated by soil washing using a surfactant as a chemical additive. Excavated areas would then be backfilled with the treated soils. LNAPL encountered during excavation activities will be pumped and treated using an oil/water separator and carbon polishing unit. Treatment residuals and/or PCB-containing materials will be disposed off Site at an appropriate disposal facility.

Overall Protection of Human Health and the Environment: Because this alternative involves excavation and the subsequent scrubbing of contaminated soil, it will reduce potential risks to human health and the environment. Exposure pathways are eliminated with the Site-wide excavation and mechanical process to scrub soils of contaminants that exceed cleanup objectives.

Compliance with ARARs/TBC materials: This alternative would attain ARARs and TBC materials to the extent practicable.

Long-Term Effectiveness and Permanence: Under this alternative, the treatment residuals would be minimized at the conclusion of cleanup activities. The contaminated soil would be excavated and scrubbed, and LNAPL would be treated using an oil/water separator and carbon polishing. Treatment residuals would be disposed of off Site at an appropriate disposal facility. ICs would be implemented to provide for long-term protectiveness to monitor or test the progress of natural attenuation processes.

Reduction of Toxicity, Mobility, or Volume: The volume of contaminants would be reduced through soil washing treatment. The soil washing treatability study results (Appendix F; ART 2009) indicated that significant hydrocarbon removal can be achieved for washed gravel and sand fractions, which were 95% of the soil mass on a dry weight basis. The scrubbing process removes hazardous contaminants and petroleum hydrocarbons and concentrates them into a smaller volume for off-Site disposal.

Short-Term Effectiveness: The potential for short-term impacts to workers and the surrounding community would be addressed by engineering controls and BMPs. A Site-specific health and safety program would be implemented to protect workers. Potential environmental impacts such as erosion and sedimentation and fugitive dusts would be addressed by BMPs.

Implementability

Soil washing technology is well understood and would be easily implemented at the Site. Commonly used earth-moving equipment and Site work procedures would be employed to excavate and transport contaminated soil and to place, contour, and stabilize the clean backfill and topsoil. On-Site treatment requires significant land area to locate the soil washing unit and store processed soils. The time required to implement this alternative may be lengthy because bench or pilot treatability investigations may be required to determine optimal performance and operating parameters, and because of design considerations associated with scaling up to full-scale operation.

<u>Cost</u>

The estimated cost is \$7,890,000 (Table 5-2).

5.4 Alternative A4: LNAPL Extraction and Off-Site Disposal

This alternative involves the excavation and off-Site disposal of soil containing COC above cleanup objectives. The cleanup objectives would be protective for industrial, commercial, and/or occasional use by a recreational visitor.

Effectiveness

Alternative A4 will provide adequate protection of human health and the environment. The contaminated soil would be excavated and transported off Site for disposal at an appropriate facility. LNAPL encountered during excavation activities would be pumped and treated using an oil/water separator and carbon polishing.

Overall Protection of Human Health and the Environment: Because this alternative involves collection of LNAPL and off-Site disposal of contaminated soil, it will reduce potential risks to human health and the environment. Exposure pathways would be eliminated with the Site-wide excavation of contaminants that exceed cleanup objectives.

Compliance with ARARs/TBC materials: This alternative would attain ARARs and TBC materials to the extent practicable.

Long-Term Effectiveness and Permanence: Under this alternative, the LNAPL would be treated using an oil/water separator and carbon polishing. Treatment residuals would be disposed of off Site at an approved disposal facility. The contaminated soil would be excavated and also be disposed of off Site at an approved disposal facility. ICs would be implemented to provide for long-term protectiveness to monitor or test the progress of natural attenuation processes.

Reduction of Toxicity, Mobility, or Volume: The alternative would reduce the mobility and toxicity of contaminants, but not the volume of contaminants. Contaminant mobility is reduced because contaminant affected media will be placed within a secure disposal facility, and contaminant toxicity is reduced because potential exposure pathways no longer exist.

Short-Term Effectiveness: There is limited short-term impacts to the community from hauling. However, the potential for short-term impacts to workers and the surrounding community would be addressed by engineering controls and BMPs. A Site-specific health and safety program would be implemented to protect workers. Potential environmental impacts such as erosion and sedimentation and fugitive dusts would be addressed by BMPs.

Implementability

This alternative is readily implementable because no active treatment technologies would be used. Excavation and off-Site disposal is a relatively simple process, with proven procedures and demonstrated performance. This technology has been widely used for disposal of contaminated soil and is a labor-intensive practice with little potential for further automation. Commonly used earth-moving equipment and Site work procedures would be employed to excavate and transport contaminated soil and to place, contour, and stabilize the clean backfill and topsoil.

Cost

There are no capital or O&M costs associated with this alternative. The estimated cost is \$8,500,000 (Table 5-3).

Table 5-1

Removal Action Cost Analysis, Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Direct Capital Costs				
Item Description	Quantity	Unit	Cost/Unit	Cost
Field Overhead and Oversight	6.5	month	\$19,000	\$123,500
Mobilization and Demobilization (non-thermal equipment)	1	1.s.	\$3,500	\$3,500
Dewatering Pad	1	1.s.	\$15,000	\$15,000
3000 PSI Pressure Washer for deconning	1	ea	\$6,875	\$6,875
Excavation of Overburden	90,769	c.y.	\$2.52	\$228,738
Excavation of Contaminated Soil	46,950	c.y.	\$3.52	\$165,265
Material Hauling (from excavation to treatment unit/storage area)	137,719	c.y.	\$2.64	\$363,579
Low Temperature Thermal Desportion Treatment	46,950	c.y.	\$89.05	\$4,181,000
Retreat 10% using LTTD	4,695	c.y.	\$89.05	\$418,092
Disposal of Process Residue/Untreatable Soil	4,695	c.y.	\$27.40	\$128,644
Transportation of Process Residue/Untreatable Soil	4,695	c.y.	\$34.25	\$160,804
Material Hauling (from treatment unit/storage area to excavation)	137,719	c.y.	\$2.64	\$363,579
Backfill gravel trench	13,502	c.y.	\$0.67	\$9,046
Soil Placement and Compaction	137,719	c.y.	\$0.43	\$59,219
Seeding	4.18	acre	\$2,022	\$8,461
Fertilizer	4.18	acre	\$595	\$2,490
Confirmation Sampling (treatment unit)	100	ea	\$200	\$20,000
Confirmation Sampling (excavation)	250	ea	\$200	\$50,000
LNAPL Extraction and Treatment Equipment Rental	5	month	\$23,502	\$117,510
LNAPL Extraction/Treatment Equipment Mobe/Demobe	1	1.s.	\$13,050	\$13,050
LNAPL Extraction/Treatment Equipment Expendables	2	charge	\$18,580	\$37,160
LNAPL Labor (2 skilled laborers)	6.5	month	\$23,056	\$149,864
Transportation of LNAPL to incinerator	1	Load	\$3,375.00	\$3,375
LNAPL Disposal (Incineration)	2,500	gallons	\$0.50	\$1,250
Roadway - Subgrade preparation	30,000	s.f.	\$0.50	\$15,000
Roadway - gravel base course	1,111	c.y.	\$54	\$59,994
Roadway - bituminous stabilized top course	3,333	s.y.	\$24	\$79,999
Roadway - 2-inch asphalt pavement layer	3,333	s.y.	\$12	\$39,996
Silt Curtain	300	1.f.	\$15	\$4,500
Excavate and Load Riprap	6,000	c.y.	\$10	\$60,000
Haul riprap to/from stockpile	4,806	c.y.	\$2.64	\$12,688
Crushed Stone for Bank Reconstruction	1,800	c.y.	\$30	\$54,000
Geotextile	32,400	s.f.	\$0.40	\$12,960
Riprap from off-site	1,194	c.y.	\$65	\$77,610
Place Riprap	6,000	c.y.	\$25	\$150,000
Subtotal Direct Capital Costs (rounded to nearest \$10,000)				\$7,200,000
Indirect Capital Costs				
Engineering and Design (7%)				\$504,000
Administration (5%)				\$360,000
Legal Fees and License/Permit Costs (5%)				\$360,000
3rd Party Construction Oversight (5%)				\$360,000
Subtotal Indirect Capital Costs				\$1,584,000
Subtotal Capital Costs				\$8,784,000
Contingency Allowance (20%)				\$1,757,000
Total Alternative Cost (rounded to nearest \$10,000)				\$10,540,000

Key:

LNAPL = Liquid non-aqueous phased liquid.

1.s. = Lump sum.

c.y. = Cubic yard.

PSI = Pounds per square inch.

1.f. = linear foot.

s.f. = square foot.

Table 5-2

Removal Action Cost Analysis, Alternative A3 LNAPL Extraction and Ex Situ Soil Washing Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Direct Capital Costs				
Item Description	Quantity	Unit	Cost/Unit	Cost
Field Overhead and Oversight	3.5	month	\$19,000	\$66,500
Mobilization and Demobilization (non-treatment equipment)	1	l.s.	\$3,500	\$3,500
Dewatering Pad	1	1.s.	\$15,000	\$15,000
3000 PSI Pressure Washer for deconning	1	ea	\$6,875	\$6,875
Excavation of Overburden	90,769	c.y.	\$2.52	\$228,738
Excavation of Contaminated Soil	46,950	c.y.	\$3.52	\$165,265
Material Hauling (from excavation to treatment unit/storage area)	137,719	c.y.	\$2.64	\$363,579
Mobe/Demobe Soil Washing Equipemt	1	1.s.	\$520,000	\$520,000
Soil Washing Processing Costs	46,950	c.y.	\$41.10	\$1,929,653
Retreat 10% using Soil Washing	4,695	c.y.	\$41.10	\$192,965
Disposal of Process Residue/Untreatable Soil	4,695	c.y.	\$27.40	\$128,644
Transportation of Process Residue/Untreatable Soil	4,695	c.y.	\$34.25	\$160,804
Material Hauling (from treatment unit/storage area to excavation)	137,719	c.y.	\$2.64	\$363,579
Purchase & transport of additional fill	4,695	c.y.	\$7.00	\$32,865
Backfill gravel trench	13,502	c.y.	\$0.67	\$9,046
Soil Placement and Compaction	137,719	c.y.	\$0.43	\$59,219
Seeding	4.18	acre	\$2,022	\$8,461
Fertilizer	4.18	acre	\$595	\$2,490
Confirmation Sampling (treatment unit)	100	ea	\$200	\$20,000
Confirmation Sampling (excavation)	250	ea	\$200	\$50,000
LNAPL Extraction and Treatment Equipment Rental	2	month	\$23,502	\$52,450
LNAPL Extraction/Treatment Equipment Mobe/Demobe	1	1.s.	\$13,050	\$13,050
LNAPL Extraction/Treatment Equipment Expendables	2	charge	\$18,580	\$37,160
LNAPL Labor (2 skilled laborers)	3.5	month	\$23,056	\$80,696
Transportaion of LNAPL to incinerator	1	Load	\$3,375.00	\$3,375
LNAPL Disposal	2,500	gallons	\$0.50	\$1,250
Roadway - Subgrade preparation	30,000	s.f.	\$0.50	\$15,000
Roadway - gravel base course	1,111	c.y.	\$54	\$59,994
Roadway - bituminous stabilized top course	3,333	s.y.	\$24	\$79,999
Roadway - 2-inch asphalt pavement layer	3,333	s.y.	\$12	\$39,996
Silt Curtain	300	1.f.	\$15	\$4,500
Excavate and Load Riprap	6,000	c.y.	\$10	\$60,000
Haul riprap to/from stockpile	4,806	c.y.	\$2.64	\$12,688
Crushed Stone for Bank Reconstruction	1,800	c.y.	\$30	\$54,000
Geotextile	32,400	s.f.	\$0.40	\$12,960
Riprap from off-site	6,000	c.y.	\$65	\$390,000
Place Riprap	6,000	c.y.	\$25	\$150,000
Subtotal Direct Capital Costs (rounded to nearest \$10,000)				\$5,390,000
Indirect Capital Costs				
Engineering and Design (7%)				\$377,000
Administration (5%)				\$270,000
Legal Fees and License/Permit Costs (5%)				\$270,000
3rd Party Construction Oversight (5%)				\$270,000
Subtotal Indirect Capital Costs				\$1,187,000
Subtotal Capital Costs				\$6,577,000
Contingency Allowance (20%)				\$1,315,000
Total Alternative Cost (rounded to nearest \$10,000)				
Total Alternative Cost (rounded to nearest \$10,000)				\$7,890,000

Key:

LNAPL = Liquid non-aqueous phased liquid.

I.s. = Lump sum.

c.y. = Cubic yard.

PSI = Pounds per square inch.

I.f. = linear foot.

s.f. = square foot.

Table 5-3

Removal Action Cost Analysis, Alternative A4 LNAPL Extraction and Off-Site Disposal **Draft Engineering Evaluation/Cost Analysis** Avery Landing Site, Avery, Idaho

Direct Capital Costs				
Item Description	Quantity	Unit	Cost/Unit	Cost
Field Overhead and Oversight	3.5	month	\$19,000	\$66,500
Mobilization and Demobilization (non-treatment equipment)	1	1.s.	\$3,500	\$3,500
Pre-design PCB Investigation	1	1.s.	\$25,000	\$25,000
Dewatering Pad	1	1.s.	\$15,000	\$15,000
3000 PSI Pressure Washer for deconning	1	ea	\$6,875	\$6,875
Excavation of Overburden	90,769	c.y.	\$2.52	\$228,738
Excavation of Contaminated Soil	46,950	c.y.	\$3.52	\$165,265
Material Handling	137,719	c.y.	\$2.64	\$363,579
Disposal of Contaminated Soil	42,950	ton	\$20	\$858,995
Transportation of Contaminated Soil	42,950	ton	\$24.50	\$1,052,269
Disposal of PCB Contaminated Soil	21,372	ton	\$21.50	\$459,498
Transportation of PCB Contaminated Soil	21,372	ton	\$36.30	\$775,804
Purchase & transport of additional fill	42,682	c.y.	\$7.00	\$298,774
Material Hauling (from treatment unit/storage area to excavation)	90,769	c.y.	\$2.64	\$239,630
Backfill gravel trench	13,502	c.y.	\$0.67	\$9,046
Soil Placement and Compaction	137,719	c.y.	\$0.43	\$59,219
Seeding	4.18	acre	\$2,022	\$8,461
Fertilizer	4.18	acre	\$595	\$2,490
Confirmation Sampling (treatment unit)	100	ea	\$200	\$20,000
Confirmation Sampling (excavation)	250	ea	\$200	\$50,000
LNAPL Extraction and Treatment Equipment Rental	3.5	month	\$23,502	\$82,257
LNAPL Extraction/Treatment Equipment Mobe/Demobe	1	1.s.	\$13,050	\$13,050
LNAPL Extraction/Treatment Equipment Expendables	2	charge	\$18,580	\$37,160
LNAPL Labor (2 skilled laborers)	3.5	month	\$23,056	\$80,696
Transportation of LNAPL to incinerator	1	Load	\$3,375.00	\$3,375
LNAPL Disposal	2,500	gallons	\$0.50	\$1,250
Roadway - Subgrade preparation	30,000	s.f.	\$0.50	\$15,000
Roadway - gravel base course	1,111	c.y.	\$54	\$59,994
Roadway - bituminous stabilized top course	3,333	s.y.	\$24	\$79,999
Roadway - 2-inch asphalt pavement layer	3,333	s.y.	\$12	\$39,996
Silt Curtain	300	1.f.	\$15	\$4,500
Excavate and Load Riprap	6,000	c.y.	\$10	\$60,000
Haul riprap to/from stockpile	4,806	c.y.	\$2.64	\$12,688
Crushed Stone for Bank Reconstruction	1,800	c.y.	\$30	\$54,000
Geotextile	32,400	s.f.	\$0.40	\$12,960
Riprap from off-site	6,000	c.y.	\$65	\$390,000
Place Riprap	6,000	c.y.	\$25	\$150,000
Subtotal Direct Capital Costs (rounded to nearest \$10,000)				\$5,810,000
Indirect Capital Costs				
Engineering and Design (7%)				\$407,000
Administration (5%)				\$290,000
Legal Fees and License/Permit Costs (5%)				\$290,000
3rd Party Construction Oversight (5%)				\$290,000
Subtotal Indirect Capital Costs				\$1,277,000
Subtotal Capital Costs				\$7,087,000
Contingency Allowance (20%)				\$1,417,000
Total Alternative Cost (rounded to nearest \$10,000)				\$8,500,000

Key:

LNAPL = Liquid non-aqueous phased liquid.

I.s. = Lump sum.

c.y. = Cubic yard. PSI = Pounds per square inch.

I.f. = linear foot.

s.f. = square foot.

6 Comparative Analysis of Removal Action Alternatives

In Section 5, each removal alternative was analyzed independently, without consideration of other alternatives. In this section, the alternatives are compared, considering effectiveness, implementability, and cost. This comparative analysis identifies the advantages and disadvantages of each alternative relative to the others.

Alternative A1, the No Action alternative, is not considered for this comparative analysis because it is not protective of human health and the environment. The remaining alternatives are:

Alternative A2 – LNAPL Extraction and Ex Situ Thermal Desorption (LTTD) of Soils

Alternative A3 – LNAPL Extraction and Ex Situ Soil Washing

Alternative A4 – LNAPL Extraction and Off-Site Disposal

6.1 Effectiveness

A summary of the effectiveness comparison is provided in Table 6-1.

6.1.1 Overall Protection of Human Health

Alternatives A2 (LTTD), A3 (Soil Washing), and A4 (Off-Site Disposal) provide adequate protection of human health and the environment. The potential short-term risks to the public associated with Alternatives A2 and A3 are less than Alternative A4 because Alternative A4 would require off-Site transport of a larger quantity of contaminated material. Additionally, Alternatives A2 and A3 result in a greater contaminant volume reduction than Alternative A4. Further, Alternative A3, when compared to Alternative A2, is likely more protective because it provides a closed system that remains unaffected by external conditions and does not potentially require dewatering of contaminated materials.

On this basis, the alternatives are ranked as follows for overall protection of human health (most to least effective):

- 1. Alternative A3 LNAPL Extraction and Ex Situ Soil Washing
- 2. Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils
- 3. Alternative A4 LNAPL Extraction and Off-Site Disposal

6.1.2 Compliance with ARARs/TBC Materials

Alternatives A2, A3, and A4 would attain ARARs and TBC materials to the extent practicable. However, a greater number of action- and chemical-specific ARARs would likely apply to Alternatives A2 and A3 than Alternative A4.

On this basis, the alternatives are ranked as follows for compliance with ARARs and TBC materials:

- 1. Alternative A4 LNAPL Extraction and Off-Site Disposal
- 2. Alternative A3 LNAPL Extraction and Soil Washing
- 3. Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils

6.1.3 Long-Term Effectiveness and Permanence

Alternatives A2, A3, and A4 would require the same post-removal activities such as ICs and long-term monitoring. Alternative A2, when compared to Alternatives A3 and A4, likely results in less treatment residuals at the conclusion of the cleanup process to manage. Alternative A4 requires the most long-term reliability of disposal management controls providing protection because a larger quantity of contaminated material will be placed at an appropriate disposal facility.

Based on a side-by-side comparison, the alternatives are ranked as follows for long-term effectiveness (most to least effective):

- 1. Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils
- 2. Alternative A3 LNAPL Extraction and Ex Situ Soil Washing
- 3. Alternative A4 LNAPL Extraction and Off-Site Disposal

6.1.4 Reduction of Toxicity, Mobility, or Volume

Alternative A2 (LTTD) provides the greatest reduction in toxicity, mobility, and volume of Alternative A2 provides the greatest reduction in contaminant toxicity, mobility, and volume because LTTD will volatize and desorb organic contaminants from the soil. Alternative A3 provides greater reduction than Alternative A4 which employs no treatment.

On this basis, the alternatives are ranked as follows for reduction of toxicity, mobility, or volume criteria (most to least reduction):

- 1. Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils
- 2. Alternative A3 LNAPL Extraction and Ex Situ Soil Washing
- 3. Alternative A4 LNAPL Extraction and Off-Site Disposal

6.1.5 Short-Term Effectiveness

Alternatives A2 and A3 may require more time than Alternative A4 to achieve RAOs because bench- or pilot-scale treatability investigations are likely required to determine optimal performance and operating parameters. Alternative A4 would result in greater short-term impacts to the community and the environment because a larger quantity of contaminated material would be hauled off Site for disposal at an appropriate disposal facility. However, the potential for such impacts are expected to be minimized by engineering controls and BMPs.

The alternatives are ranked as follows for short-term effectiveness (most to least effective):

- 1. Alternative A4 LNAPL Extraction and Off-Site Disposal
- 2. Alternative A3 LNAPL Extraction and Ex Situ Soil Washing
- 3. Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils

6.2 Implementability

A summary of the implementability comparison is provided in Table 6-2.

6.2.1 Technical Feasibility

Alternatives A2 (LTTD) and A3 (Soil Washing) likely require greater technical considerations due to problems associated with technology design and implementation that may lead to schedule delays. For example: the A2 design must address the primary thermal treatment operation and a secondary off-gas treatment unit and some pre- and post-processing of soil; and the Alternative A3 design must address the soil type and the type of additives which may cause some difficulty in the treatment of used wastewater and the disposal of residuals from the washing process as well as pre- and post-processing of scrubbed soil. There are no significant technical concerns expected with Alternative A4 (Off-Site Disposal).

On this basis, the alternatives are ranked as follows for the technical feasibility criteria (most to least feasible):

- 1. Alternative A4 LNAPL Extraction and Off-Site Disposal
- 2. Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils
- 3. Alternative A3 LNAPL Extraction and Ex Situ Soil Washing

6.2.2 Administrative Feasibility

Alternative A2 would require greater coordination with other offices because operation of LTTD units must demonstrate compliance with substantive permit requirements. Further, monitoring of LTTD systems and waste streams systems (e.g., concentrations of particulates, volatiles, and carbon monoxide in stack gas) are by their nature different. Alternative A3 would also require greater coordination with other offices and agencies because the presence of additives may cause some difficulty in the treatment of the used wastewater and the disposal of residuals from the washing process.

The alternatives are ranked as follows for administrative feasibility (most to least feasible):

- 1. Alternative A4 LNAPL Extraction and Off-Site Disposal
- 2. Alternative A3 LNAPL Extraction and Ex Situ Soil Washing and LNAPL Extraction
- 3. Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils

6.2.3 Availability of Service and Materials

Alternative A2 would require more extensive design work and specialized equipment than Alternatives A3 and A4 because of primary and secondary process operations and pre- and post-processing of soil such as screening and backfilling requirements. A3 would require more design work and specialized equipment than Alternative A4 because of soil pre-processing, soil washing operations, and disposal of wastewater. Alternative A4 would utilize readily available equipment and personnel and there is adequate off-Site disposal services.

The alternatives are ranked as follows for availability of service and materials (most to least available):

- 1. Alternative A4 LNAPL Extraction and Off-Site Disposal
- 2. Alternative A3 LNAPL Extraction and Ex Situ Soil Washing
- 3. Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils

6.2.4 State and Community Acceptance

State and community acceptance will be addressed once comments on the EE/CA have been received.

6.3 Cost

While a cost estimate prepared as part of detailed design will provide a more accurate cost, it is beyond the scope of an EE/CA. In developing the individual cost estimates, there are a number of uncertainties that must be accounted for. There is a considerable amount of Site data; however, data gaps associated with the extent contamination still exist. Therefore, the volume of material to be treated or disposed of off Site was increased by 10% to account for unknowns. Also for Alternatives A2 and A3, it was assumed that 10% of the initially treated material would have to undergo a second round of treatment.

Finally, for all of the action alternatives, a 20% contingency factor was added to address potential unknowns that may increase the cost of implementing the individual alternative.

6.3.2 Cost Evaluation

In evaluating the costs of the removal action alternatives, there are three components: capital cost, annual post-removal Site controls cost, and total project cost.

For the Avery Landing Site, the capital costs of the action alternatives are:

Alternative A2: LNAPL Extraction and Ex Situ Thermal Desorption of Soils	\$10,540,000
Alternative A3: LNAPL Extraction and Ex Situ Soil Washing	\$7,890,000
Alternative A4: LNAPL Extraction and Off-Site Disposal	\$8,500,000

None of the alternatives requires significant post-removal Site controls beyond monitoring for the effectiveness of the removal action.

6.4 Summary of Comparative Analysis

A summary of the comparative analysis for the removal action alternatives is presented in Table 6-3.

Table 6-1

Summary of Effectiveness Comparison Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

1. Overall Protection of Human Health				
1	A3 - LNAPL Extraction and Ex Situ Soil Washing			
2	A2 - LNAPL Extraction and Ex Situ Thermal Desorption of Soils			
3	A4 - LNAPL Extraction and Off-Site Disposal			
2. Comp	iance with ARARs/TBC Materials			
1	A4 - LNAPL Extraction and Off-Site Disposal			
2	A3 - LNAPL Extraction and Ex Situ Soil Washing			
3	A2 - LNAPL Extraction and Ex Situ Thermal Desorption of Soils			
3. Long-	Term Effectiveness and Permanence			
1	A2 - LNAPL Extraction and Ex Situ Thermal Desorption of Soils			
2	A3 - LNAPL Extraction and Ex Situ Soil Washing			
3	A4 - LNAPL Extraction and Off-Site Disposal			
4. Reduc	tion of Toxicity, Mobility, or Volume			
1	A2 - LNAPL Extraction and Ex Situ Thermal Desorption of Soils			
2	A3 - LNAPL Extraction and Ex Situ Soil Washing			
3	A4 - LNAPL Extraction and Off-Site Disposal			
5. Short-	5. Short-Term Effectiveness			
1	A4 - LNAPL Extraction and Off-Site Disposal			
2	A3 - LNAPL Extraction and Ex Situ Soil Washing			
3	A2 - LNAPL Extraction and Ex Situ Thermal Desorption of Soils			

Key:

ARAR = applicable or relevant and appropriate

LNAPL = light non-aqueous phase liquid

TBC = to be considered

Table 6-2

Summary of Implementability Comparison Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

1. Techn	1. Technical Feasibility				
1	A4 - LNAPL Extraction and Off-Site Disposal				
2	A2 - LNAPL Extraction and Ex Situ Thermal Desorption of Soils				
3	A3 - LNAPL Extraction and Ex Situ Soil Washing				
2. Admir	nistrative Feasibility				
1	A4 - LNAPL Extraction and Off-Site Disposal				
2	A3 - LNAPL Extraction and Ex Situ Soil Washing				
3	A2 - LNAPL Extraction and Ex Situ Thermal Desorption of Soils				
3. Availa	3. Availability of Service and Materials				
1	A4 - LNAPL Extraction and Off-Site Disposal				
2	A3 - LNAPL Extraction and Ex Situ Soil Washing				
3	A2 - LNAPL Extraction and Ex Situ Thermal Desorption of Soils				
4. State and Community Acceptance					
State and community acceptance will be addressed once comments on the EE/CA have been received.					

Key:

EE/CA = Engineering Evaluation/Cost Analysis LNAPL = light non-aqueous phase liquid

Table 6-3 Summary of Comparative Analysis Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

	Qualitativ		
Alternative Description	Effectiveness	Implementability	Cost
Alternative 2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils	MODERATE Includes treatment of contaminated soils and wastes. May require additional bench- or pilot-scale testing to optimize design. Would significantly reduce toxicity, mobility, and volume of COCs. ARARs and TBC materials will be met, although more actionand chemical-specific ARARs may apply. Treatment residues would likely require off-Site disposal.	LOW Readily implementable based on standard construction practices However, substantive requirements must be addressed before implementation Public may oppose technology, viewing it as similar to incineration Time required to implement may be relatively long compared to other alternatives.	\$10,540,000
Alternative 3 LNAPL Extraction and Ex Situ Soil Washing	MODERATE Includes treatment of contaminated soils and wastes. May require additional bench- or pilot-scale testing to optimize design. Would reduce exposure to workers and visitors to an acceptable level. Will substantially reduce the volume and concentration of existing contamination. ARARs and TBC materials will be met, although more actionand chemical-specific ARARs may apply. Treatment residues would likely require off-Site disposal.	MODERATE Readily implementable based on standard construction practices Substantive requirements must be addressed.	\$7,890,000
Alternative 4 LNAPL Extraction and Off-Site Disposal	MODERATE This alternative would reduce on-Site toxicity, mobility, and volume. However, soils and wastes are only transferred to a new location. Greater short term impacts because of quantity of contaminated material transported off Site. ARARs and TBC materials will be met.	MODERATE Readily implementable based on standard construction practices Disposal capacity is available Public may oppose increased truck traffic.	\$8,500,000

Key:

ARAR = applicable or relevant and appropriate requirement

COC = contaminant of concern

LNAPL = light non-aqueous phase liquid

TBC = to be considered

7 Recommended Removal Action Alternative

Based upon the alternative evaluations conducted in Section 6, Alternative A4, LNAPL Extraction and Off-Site Disposal, is the recommend removal action alternative.

The key advantages of Alternative A4 are that it is the most straightforward and least likely problematic alternative. Although Alternative A4 is not the least expensive to implement, the additional costs would be offset in part by avoiding potential cost increases due to administrative and technical feasibility concerns associated with Alternatives A2 (LTTD) and A3 (Soil Washing) such as bench and pilot scale treatability investigations and design requirements. Additionally, Alternative A4 is likely the most adaptable to evolving Site-specific conditions that would emerge during cleanup activities.

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Groundwater Monitoring Data, 2007 EPA Removal Assessment and 2009 Potlatch Field Investigation

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Groundwater Monitoring Data 2007 EPA Removal Assessment

Table 3-1

Summary of Borings and Monitoring Wells 2007 EPA Removal Assessment Avery Landing Site Avery, Idaho

		Total	Well	
EPA	Installation	Depth	Diameter	Screened Interval
Boring ID	Date	(feet bgs)	(inches)	(feet bgs)
EMW-01	4/16/2007	12.6	2	2.5 - 12.5
EMW-02	4/17/2007	16.0	2	5.5 - 15.5
EMW-03	4/17/2007	19.5	2	9 - 19
EMW-04	4/17/2007	17	2	7 - 17
EMW-05	4/18/2007	19.5	2	9 - 19
EMW-06	4/18/2007	18.8	2	8.5 - 18.5
ESB-01	4/18/2007	9.0	N/A	N/A
ESB-02 (1)	4/18/2007	3, 5, 3 (1)	N/A	N/A
ESB-03	4/18/2007	13.0	N/A	N/A
ESB-04	4/18/2007	9.0	N/A	N/A
ESB-05	4/19/2007	25.0	N/A	N/A
ESB-06	4/19/2007	13.0	N/A	N/A
ESB-07	4/19/2007	17.0	N/A	N/A

Note: (1) ESB-02 met refusal after three attempts.

Key:

bgs = below ground surface EMW = EPA monitoring well

EPA = U.S. Environmental Protection Agency

ESB = EPA soil boring ID = identification N/A = not applicable

START = Superfund Technical Assessment and Response Team

Table 3-2

Summary of Free Product Observations in Soil Borings 2007 EPA Removal Assessment Avery Landing Site Avery, Idaho

				Free Product Observations					
EPA Boring ID	Installation Date	Total Depth (feet bgs)	Depth Interval (feet bgs)	Observation					
EMW-01	4/16/2007	12.6	All	None.					
EMW-02	4/17/2007	16.0	5 - 7	Moderately strong hydrocarbon odor.					
			7 - 9	Hydrocarbon product.					
EMW-03	4/17/2007	19.5	All	None.					
EMW-04	4/17/2007	17	11 - 13	Hydrocarbon sheen on groundwater.					
			13 - 17	Oily hydrocarbon product present on downhole tools (poor recovery in sampling tool).					
EMW-05	4/18/2007	19.5	9 - 11	Strong hydrocarbon odor.					
			11 - 13	Strong hydrocarbon odor and sheen.					
			13 - 15	Strong hydrocarbon odor; sheen and drops of black product in groundwater.					
EMW-06	4/18/2007	18.8	7 - 9	Hydrocarbon odor and sheen.					
			9 - 11	Hydrocarbon odor and black oily liquid.					
			11 - 13	Sand and gravel are stained black with an oily liquid.					
			13 - 18	Soil cuttings contain an oily liquid.					
ESB-01	4/18/2007	9.0	7 - 9	Hydrocarbon sheen and odor on groundwater.					
ESB-02 (1)	4/18/2007	3, 5, 3 ⁽¹⁾	All	None.					
ESB-03	4/18/2007	13.0	9 - 11	Slight hydrocarbon odor.					
			11 - 13	Strong hydrocarbon odor, product.					
ESB-04	4/18/2007	9.0	3 - 5	Hydrocarbon odor and sheen.					
			5 - 7	Hydrocarbon odor.					
			7 - 9	Strong hydrocarbon odor and product.					
ESB-05	4/19/2007	25.0	3 - 5	Hydrocarbon odor and sheen.					
			7 - 9	Strong hydrocarbon odor, light sheen.					
			11 - 13	Very dense, black oily liquid with strong hydrocarbon odor.					
			15 - 17	Hydrocarbon odor.					
ESB-06	4/19/2007	13.0	7 - 9	Hydrocarbon odor.					
			11 - 13	Strong hydrocarbon odor and oily liquid.					
ESB-07	4/19/2007	17.0	5 - 7	Hydrocarbon odor.					
			9 - 11	Increased hydrocarbon odor and sheen.					
			13 - 15	Hydrocarbon odor and heavy sheen/product.					
			15 - 17	Hydrocarbon odor and heavy sheen/product.					

Note: (1) ESB-02 met refusal after three attempts.

Key:

bgs = below ground surface EMW = EPA monitoring well

EPA = U.S. Environmental Protection Agency

ESB = EPA soil boring ID = identification

Table 3-3

Summary of Groundwater and Free Product Level Data 2007 EPA Removal Assessment Avery Landing Site Avery, Idaho

			Depth to	Depth to	Product	
Monitoring	Measurement	Reference	Product	Water	Thickness	Water Level
Well	Date	Elevation	(feet)	(feet)	(feet)	Elevation
EMW-01	4/21/2007	97.81		7.88	0.00	89.93
EMW-02	4/21/2007	97.52		8.22	0.00	89.30
EMW-03	4/21/2007	97.90		10.79	0.00	87.11
EMW-04	4/21/2007	98.14		11.31	0.00	86.83
EMW-05	4/21/2007	100.02		11.89	0.00	88.13
EMW-06	4/21/2007	99.15		10.79	0.00	88.36
HC-1R	4/21/2007	n/a		10.92	0.00	n/a
HC-4	4/17/2007	n/a	10.32	11.20	0.88	n/a
HC-5	4/21/2007	n/a		15.18	0.00	n/a
MW-5	4/21/2007	97.76		7.89	0.00	89.87
MW-11	4/21/2007	n/a	Present (1)	NA	Present (1)	n/a
TP-1 (2")	4/21/2007	n/a		16.80	0.00	n/a
TP-1 (4")	4/21/2007	n/a		16.61	0.00	n/a
TP-2	4/21/2007	n/a	12.48	13.20	0.72	n/a
TP-3	4/21/2007	n/a		19.92	0.00	n/a
TP-5	4/21/2007	n/a		13.57	0.00	n/a
TP-6	4/21/2007	n/a		12.57	0.00	n/a
TP-7	4/21/2007	n/a		14.17	0.00	n/a
TP-8	4/21/2007	n/a		14.84	0.00	n/a
TP-9	4/21/2007	n/a		15.58	0.00	n/a
TP-10	4/21/2007	n/a		5.42	0.00	n/a
TP-11	4/21/2007	n/a		5.41	0.00	n/a
TP-12	4/21/2007	n/a		12.54	0.00	n/a
EW-3	4/17/2007	n/a	Present (1)	NA	Present (1)	n/a
EW-4	4/17/2007	n/a	Present (1)	NA	Present (1)	n/a

Notes: (1) A very viscous and sticky product was present; depths and thickness were not determined.

Key:

MSL = mean sea level n/a = not available NM = not measured Groundwater Monitoring Data 2009 Potlatch/Golder Field Investigation

TABLE 3-3
Monitoring Well Construction Details

		Casing	Casing		Measuring Point Elevation	Depth to Bottom of Well	Top of Screen Interval	Top of Screen Elevation	Bottom of Screen Interval	Bottom of Screen Elevation
Well ID	Well Type	Diameter	Construction	Measuring Point	(Feet amsl)	(Feet BMP)	(Feet BGS)	(Feet amsl)	(Feet BGS)	(Feet amsl)
Monitoring Wells										
GA-1	Flush Mount	2-inch	PVC	Top of casing.	2478.19	21	6	2472.19	21	2457.19
GA-2	Flush Mount	2-inch	PVC	Top of casing.	2472.74	20.1	5.1	2467.64	20.1	2452.64
GA-3	Flush Mount	2-inch	PVC	Top of casing.	2479.23	26.5	11.5	2467.73	26.5	2452.73
GA-4	Flush Mount	2-inch	PVC	Top of casing.	2474.21	21	6	2468.21	21	2453.21
EMW-01	Flush Mount	2-inch	PVC	Top of casing.	2478	12.6	2.5	2475.50	12.6	2465.4
EMW-02	Flush Mount	2-inch	PVC	Top of casing.	2477.82	16	6	2471.82	16	2461.82
EMW-03	Flush Mount	2-inch	PVC	Top of casing.	2478.1	19	9	2469.10	19	2459.1
EMW-04	Flush Mount	2-inch	PVC	Top of casing.	2478.33	17	7.0	2471.33	17	2461.33
EMW-05	Flush Mount	2-inch	PVC	Top of casing.	2480.24	19.5	9.5	2470.74	19.5	2460.74
EMW-06	Flush Mount	2-inch	PVC	Top of casing.	2479.36	18.5	8.5	2470.86	18.5	2460.86
EW-3	Stick-up	3-foot	Currogated Metal	Top of casing/monument.	2478	15.75				
EW-4	Stick-up	3-foot	Currogated Metal	Top of casing/monument.	2479.43	15.5				
EW-?	Stick-up	3-foot	Currogated Metal	Top of casing/monument.	2483.43					
MW-5	Flush Mount	2-inch	PVC	Top of casing.	2478.06	12.9				
MW-11	Stick-up	2-inch	PVC	Top of casing.	2484.28	~22				
HC-4	Flush Mount	4-inch	PVC	Top of casing.	2483.01	15.93	9.25	2473.76	18.5	2464.51
HC-1R	Flush Mount	2-inch	PVC	Top of casing.	2477.81	18	9	2468.81	18	2459.81
DW-01	Stick-up	6-inch	Steel.	Top of casing.	2475.91	~68				
Stick-Up Pipes										
#1010	Stick-up	4-inch	PVC	Top of casing	2481.82	15.34				
#1002	Stick-up	4-inch	PVC	Top of casing	2482.21	14.9				
#1006	Stick-up	1.5-inch	PVC	Top of casing	2484.63	23.05				
#1005	Stick-up	4-inch	PVC	Top of casing	2483.13	17.1				
#1007	Stick-up	4-inch	PVC	Top of casing	2481.56	15.2				
#1014	Stick-up	4-inch	PVC	Top of casing	2485.18	20.85				
#1015	Stick-up	2-inch	PVC	Top of cap	2485.23					
Black Pipe	Stick-up	2-inch	PVC	Top of cap	2483.58					
#1030	Stick-up	4-inch	PVC	Top of casing	2482.69	17.43				
#1031	Stick-up	4-inch	PVC	Top of casing	2482.63	18				
#1025	Stick-up	4-inch	PVC	Top of casing	2483.31	19.12				
#1024	Stick-up	4-inch	PVC	Top of casing	2482.98	16.78				
#1023	Stick-up	4-inch	PVC	Top of casing	2483.89	16.94				
#1012	Stick-up	4-inch	PVC	Top of casing.	2483.01	15.93				
Piezometer	Stick-up	3/4-inch	PVC.	Top of casing.	2484.16	9.5	N/A		N/A	N/A

Note: **Bold -** Surveyor indicated TOC elevation for EMW-06 required +3.73 foot correction.



TABLE 3-4a
Groundwater Level Measurements - September 2009

			Water Level	TOC Elevation	Water Elevation	LNAPL Level	LNAPL Thickness	LNAPL Corrected	
ID	Time	Date	(Feet BTOC)	(Feet AMSL)	(Feet AMSL)	(Feet BTOC)	(Feet)	Water Level	Odor/Sheen
Monitoring Wells									
GA-1	10:04	9/1/2009	13.6	2478.19	2464.59	13.59	0.01	2464.60	Probe coated in oil like product.
GA-2	9:35	9/1/2009	8.62	2472.74	2464.12				
GA-3	9:45	9/1/2009	15.92	2479.23	2463.31				
GA-4	9:24	9/1/2009	9.81	2474.21	2464.40				
EMW-01	12:43	9/1/2009	10.2	2478.00	2467.80				
EMW-02	15:01	9/1/2009	10.81	2477.82	2467.01				Slight odor.
EMW-03	10:31	9/1/2009	13.32	2478.10	2464.78				
EMW-04	10:46	9/1/2009	13.63	2478.33	2464.70		Thin Layer		Probe coated in oil like product.
EMW-05	11:02	9/1/2009	14.68	2480.24	2465.56				
EMW-06	12:09	9/1/2009	13.89	2479.36	2465.47	13.65	0.24	2465.69	Probe coated in oil and diesel like product.
EW-3	13:39	9/1/2009	12.18	2478.00	2465.82				
EW-4	13:46	9/1/2009	12.85	2479.43	2466.58				Sheen on water.
MW-5	12:54	9/1/2009	10.99	2478.06	2467.07				
MW-11	11:45	9/1/2009	N/A	2484.28		17.3			Probe coated in oil like product.
HC-4			NS	NS					
HC-1R	14:38	9/1/2009	13.23	2477.81	2464.58				
DW-01	9:54	9/1/2009	11.54	2475.91	2464.37				
EW-?	16:33	9/4/2009	18.05	2483.43	2465.38				
Stick-up Pipes									
#1002	10:10	9/9/2009	Dry	2482.21					
#1005	10:07	9/9/2009	16.55	2483.13	2466.58				
#1006	10:00	9/9/2009	18.1	2484.63	2466.53				Probe smells like petroleum.
#1007	9:56	9/9/2009	14.7	2481.56	2466.86				
#1010	16:46	9/4/2009	Dry	2481.82		15.34	Thin Layer		Oil like product at bottom of well.
#1012	14:00	9/1/2009	Dry	2483.01					
#1014	16:41	9/4/2009	19.55	2485.18	2465.63				
#1015	16:43	9/4/2009	Dry	2485.23					
#1023	16:25	9/4/2009	Dry	2483.89					
#1024	16:23	9/4/2009	Dry	2482.98					
#1025	16:19	9/4/2009	18.29	2483.31	2465.02				
#1030	16:16	9/4/2009	Dry	2482.69					
#1031	16:12	9/4/2009	17.43	2482.63	2465.20				
Black Pipe	16:30	9/4/2009	N/A	2483.58					
Piezometer	15:49	9/1/2009	Dry	2484.16					
Notes:	Dry - At the t	ime of measure	ment, the well did not o	contain any water.					

Notes:

Dry - At the time of measurement, the well did not contain any water.

N/A - Water level not measured in this well due to extenuating circumstances.

NS - could not be located in September 2009 so it was not included in the geodetic survey.

* Could not determine LNAPL thickness due to presence of drop tube in well.

LNAPL Corrected Water Level Calculation = Water Level + (LNAPL thickness x 0.90 specific gravity of LNAPL)

Bold - Surveyor indicated TOC elevation for EMW-06 required +3.73 foot correction.



TABLE 3-4b
Groundwater Level Measurements - November 2009

			Water Level	TOC Elevation	Water Elevation	LNAPL Level	LNAPL Thickness	LNAPL	
ID	Time	Date	Water Level (Feet BTOC)	(Feet AMSL)	(Feet AMSL)		(Feet)	Corrected Water Level	Odor/Sheen
Monitoring Wells			(* 333 – 333)	(**************************************	(* ************************************	(**************************************	(1 000)		
GA-1	13:00	11/19/2009	13.72	2478.19	2464.47				
GA-2	7:45	11/19/2009	8.77	2472.74	2463.97				
GA-3	8:00	11/19/2009	16.07	2479.23	2463.16				
GA-4	7:32	11/19/2009	9.94	2474.21	2464.27				
EMW-01	8:15	11/19/2009	10.31	2478.00	2467.69				
EMW-02	11:45	11/19/2009	10.84	2477.82	2466.98				
EMW-03	11:40	11/19/2009	13.43	2478.10	2464.67				
EMW-04	12:00	11/19/2009	13.66	2478.33	2464.67	*			
EMW-05	13:05	11/19/2009	14.81	2480.24	2465.43				
EMW-06	12:40	11/19/2009	13.63	2479.36	2465.73	*			
EW-3	15:40	11/19/2009	12.13	2478.00	2465.87				
EW-4	14:42	11/19/2009	12.81	2479.43	2466.62				
MW-5	12:35	11/19/2009	11.70	2478.06	2466.36				
MW-11	9:20	11/19/2009		2484.28			3.73 (ft from bottom of well)		
HC-4	8:30	11/19/2009	14.44	NS		13.20	1.24		
HC-1R	15:20	11/19/2009	13.35	2477.81	2464.46				
DW-01	10:50	11/19/2009	11.62	2475.91	2464.29				
Stick-up Pipes									
#1007	15:35	11/19/2009	14.68	2481.56	2466.88			•	eum-like odor noted.
#1010	11:25	11/19/2009		2481.82		15.95		Could not de	etermine depth to water due to presence of viscous oil.
Piezometer	15:50	11/19/2009	dry	2484.16					

Notes: * Could not determine LNAPL thickness due to presence of drop tube in well.

NS - could not be located in September 2009 so it was not included in the geodetic survey.

LNAPL Corrected Water Level Calculation = Water Level + (LNAPL thickness x specific gravity of LNAPL)

Bold - Surveyor indicated TOC elevation for EMW-06 required +3.73 foot correction.



TABLE 3-5
Water Quality Parameters

Sample Location ID	Date	Time	рН	Temperature (°C)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NOTES	
Groundwater	Samples								
GA-1	9/5/2009	9:21	6.67	10.7	348	0.04	1.73	Purge water had petroleum-like odor and a sheen.	
GA-2	9/2/2009	12:01	6.98	11.4	167.9	0.09	4.69		
GA-3	9/3/2009	9:23	7.06	14	101.7	0.06	0.81		
GA-4	9/2/2009	14:20	6.74	11.6	201.9	1.96	1.75		
EMW-04	9/4/2009	15:25	6.69	11.9	285.6	0.06	0.76	Purge water had petroleum-like odor and a sheen.	
EMW-05	9/5/2009	11:13	6.76	10.8	228.8	0.08	0.18	Purge water had medium strength petroleum-like odor.	
EMW-06	9/5/2009	13:18	6.66	12.6	213	0.06	0.28	Purge water had slight petroleum-like odor and a sheen.	
EW-3	9/4/2009	10:55	6.17	12.5	164.9	0.08	7.02	Turbidity fluctuated throughout duration of purge from 6.24 - 7.19 NTU.	
EW-4	9/4/2009	13:07	6.28	13.7	163.9	0.06	4.45		
MW-5	9/2/2009							Not able to monitor water quality parameters due to limited water volume in well. Sample was turbid.	
HC-1R	9/4/2009	8:50	6.45	10.3	287.8	0.06	3.51	Purge water had petroleum-like odor.	
DW-01	9/2/2009	18:39	6.99	9.1	240.7	0.16	97	Turbidity consistent around 100 NTU for 40 minutes.	
Surface Water	Samples								
RS-1	9/6/2009	10:31	7.68	12.5	61.8	9.64	0.74		
RS-2	9/6/2009	10:45	7.33	14.3	58.7	9.75	0.46		
RS-3	9/6/2009	11:30	7.79	15	69.8	9.92	0.54		
RS-4	9/6/2009	13:19	7.35	14.7	75.3	8.48	4.52		
RS-5	9/6/2009	13:57	7.15		85.2	8.65	1.32		
RS-6	9/6/2009	14:46	7.04	15.9	83.8	8.00			
RS-7	9/6/2009	15:20	7.45	16.7	80.8	7.04	1.32		
RS-8	9/6/2009	16:19	7.67	16.3	16.9	8.33	1.32		



TABLE 3-8
Hydraulic Test Measurements

Hydraulic Conductivities

	Well Depth	Depth to Water	Saturated Aquifer	Slug "In" (ft/day)		Slug "Out" (ft/day)		
Well ID	(ft)	(ft)	Thickness (ft)	Hvorslev	Bouwer-Rice	Hvorslev	Bouwer-Rice	
EMW-01	12.6	10.25	2.35	0.64	0.31			
EMW-02	16	10.92	5.08	1.74	1.13			
EMW-05	19.5	14.8	4.7	0.85	0.52			
HC-1R	18	13.33	4.67	5.16				
GA-2	20.1	8.62	11.48	3.59	2.53	0.82	0.60	
GA-3	26.5	15.96	10.54	1.56	1.12	2.72	2.00	
GA-4	21	9.87	11.13	3.13	2.25			

Note: Saturated aquifer thickness determined by subtracting water depth from well depth.



TABLE 3-11
Stream Gauge Measurements

		Gauge	Water
		Reading	Elevation
Date	Time	(ft.)	(ft amsl)
9/9/2009	15:09	8.0	2466.26
10/2/2009	13:40	0.68	2466.14
10/11/2009	11:05	0.64	2466.1
10/17/2009	11:25	0.70	2466.16
10/24/2009	8:45	1.00	2466.46
11/2/2009	8:13	0.82	2466.28
11/7/2009	9:00	0.92	2466.38
11/19/2009	15:50	0.68	2466.14

Note: Surveyed measuring point is the 8 foot mark on the stream gauge (2473.46 ft. amsl)



Avery Landing Slug Test Analysis

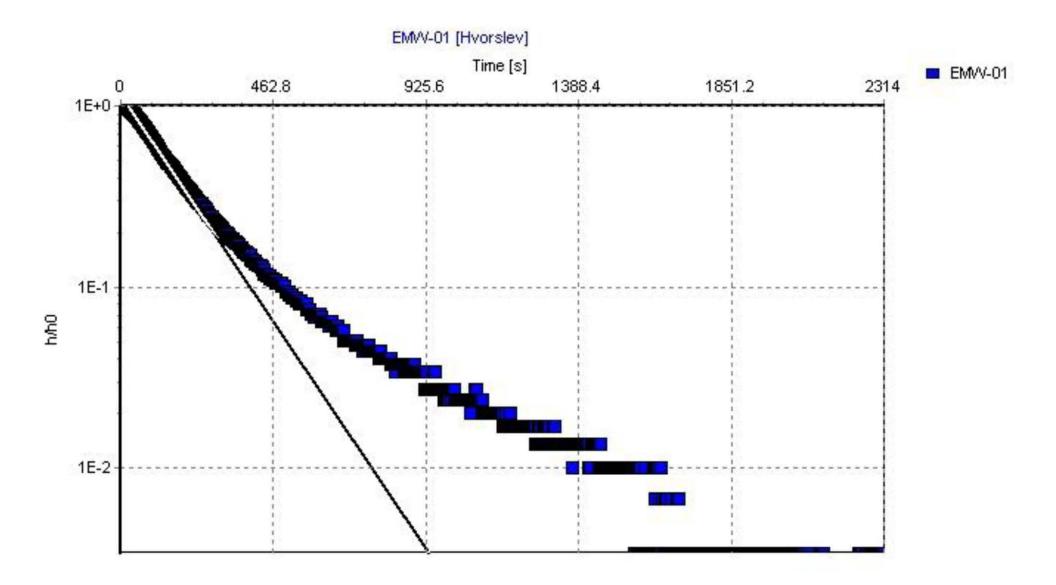
Hydraulic conductivities were calculated using both the Bouwer-Rice and Hvorslev methods for comparison using Aquifer Test. The curve fit used for both the Hvorslev and Bouwer-Rice were the same for each well and can be viewed below. The saturated aquifer thickness for each analysis was assumed to be the amount of water in the well. This was used because many of the water levels were below the top of the screen/filter pack. Saturated aquifer thickness was calculated by subtracting the depth to water from the total well depth (see chart below). I calculated hydraulic conductivities for the slug out for the wells where the Golder slug (not water) was used.

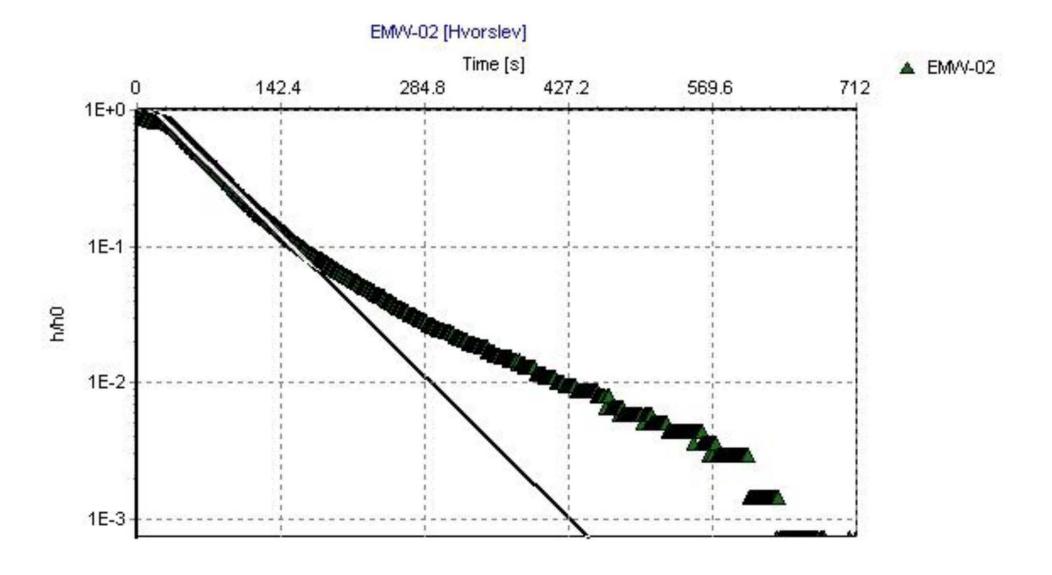
Overall the total range in hydraulic conductivities was 0.31 ft/day to 5.16 ft/day, however the h/h₀ vs. time plot for HC-1R, the highest hydraulic conductivity, has noticeable dip at approximately t_{50} so the analysis may not be as accurate. Without considering HC1R, K values range from 0.31 ft/day to 3.59 ft/day.

Spatially, the highest hydraulic conductivities were at GA-2, GA-3 and GA-4 located on the western end of the property with the highest hydraulic conductivities measured at GA-2 and GA-4. The wells on the eastern end of the property had lower hydraulic conductivities ranging from 0.31 ft/day (EMW-01) to 1.74 ft/day (EMW-02).

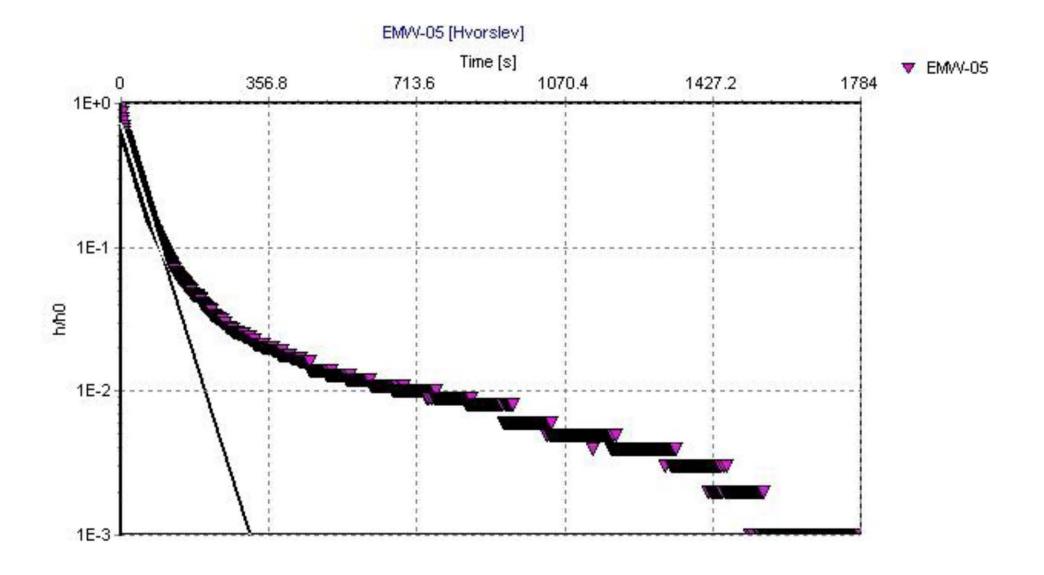
	<u>Well Details</u>											
Well ID	Well Depth (ft)	Depth to Water (ft)	Saturated Aquifer Thickness = well depth - depth to water (ft)									
EMW-01	12.6	10.25	2.35									
EMW-02	16	10.92	5.08									
EMW-05	19.5	14.8	4.7									
HC-1R	18	13.33	4.67									
GA-2	20.1	8.62	11.48									
GA-3	26.5	15.96	10.54									
GA-4	21	9.87	11.13									

	Hydraulic Conductivities											
Well ID	Slug I	n (ft/day)	Slug Out (ft/day)									
Well ID	Hvorslev	Bouwer-Rice	Hvorslev	Bouwer-Rice								
EMW-01	0.64	0.31										
EMW-02	1.74	1.13										
EMW-05	0.85	0.52										
HC-1R	5.16											
GA-2	3.59	2.53	0.82	0.60								
GA-3	1.56	1.12	2.72	2.00								
GA-4	3.13	2.25										

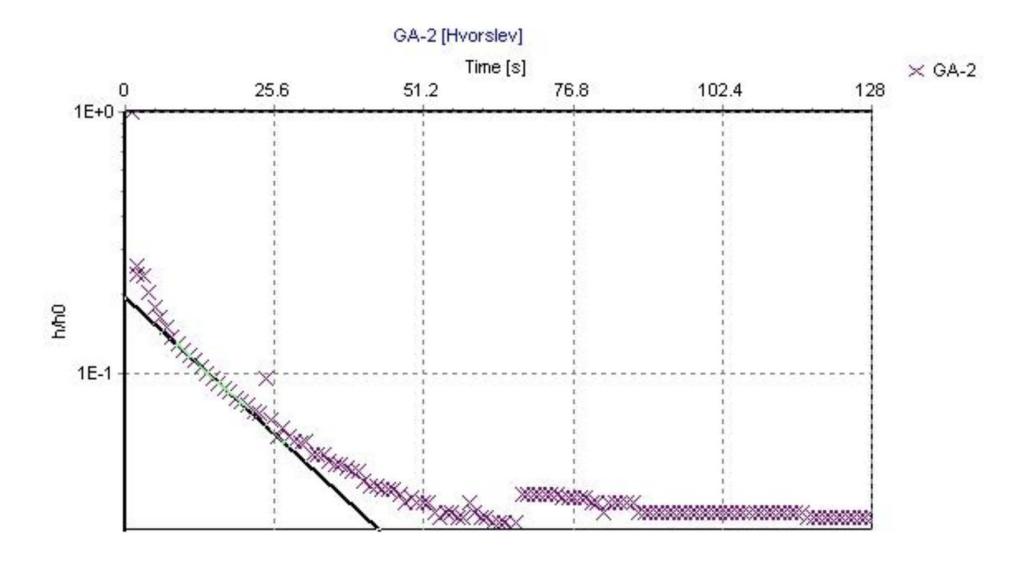




Conductivity: 1.74E+0 ft/d

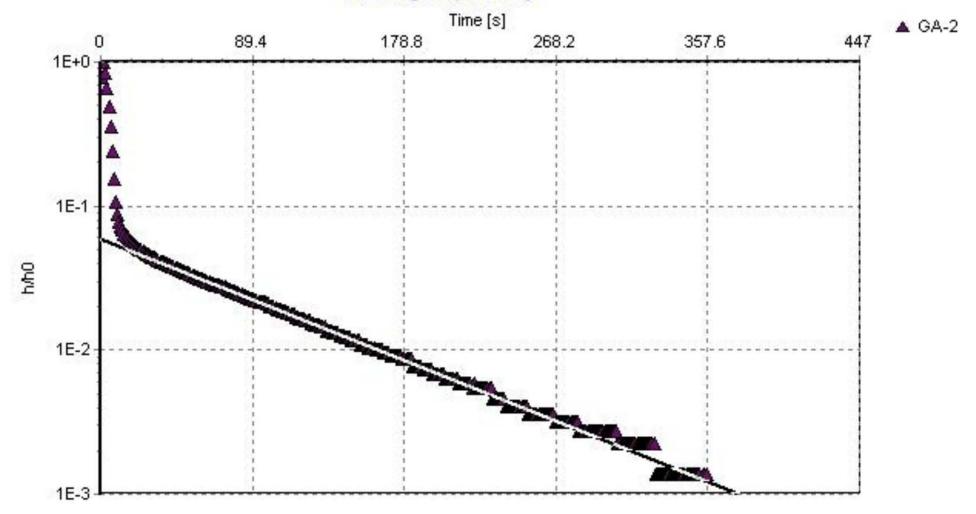


Conductivity: 8.47E-1 ft/d

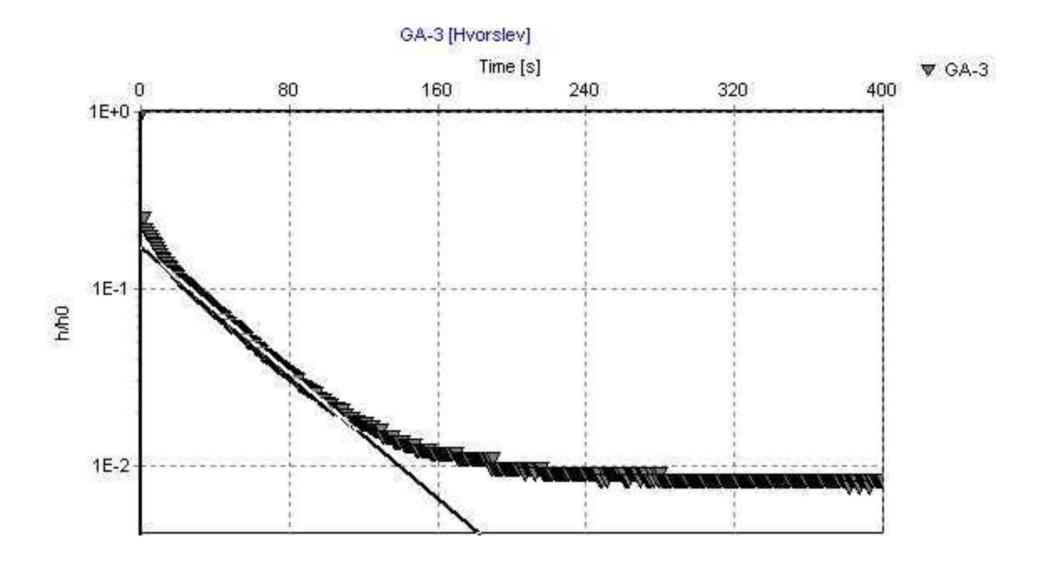


Conductivity: 3.59E+0 ft/d



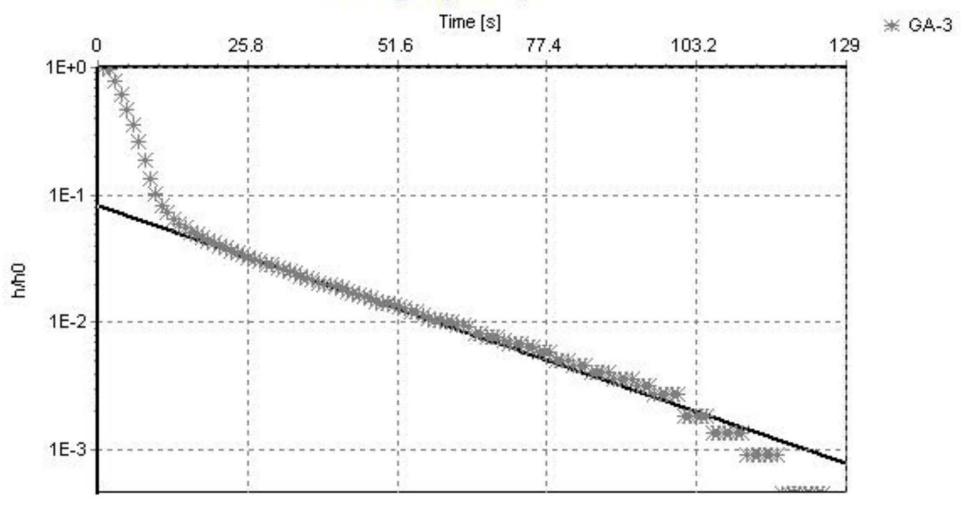


Conductivity: 8.21E-1 ft/d

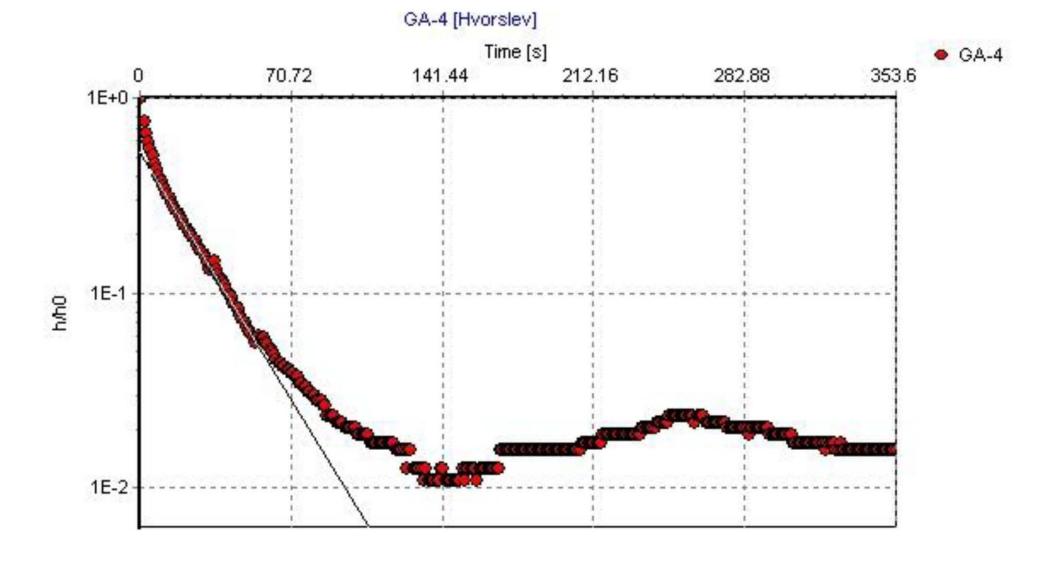


Conductivity: 1.56E+0 ft/d

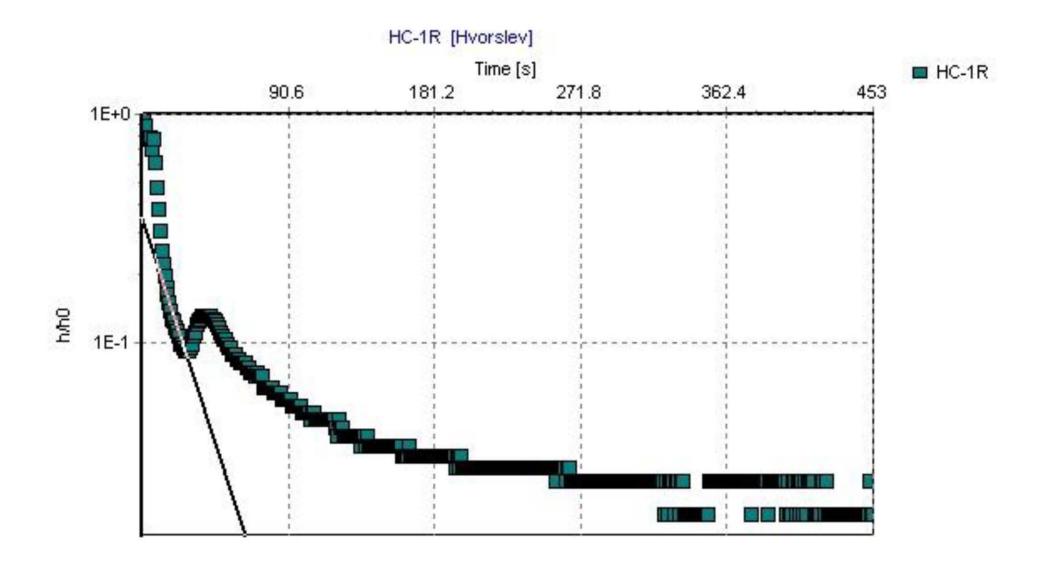




Conductivity: 2.72E+0 ft/d



Conductivity: 3.13E+0 ft/d



Conductivity: 5.16E+0 ft/d

B

Borehole Logs from 2007 EPA Removal Assessment and 2009 Potlatch Field Investigation

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Borehole Logs 2007 EPA Removal Assessment

Page 1 of 1

DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A
LOCATION: Avery, ID

 ndy Wilder
 EPA TASK MANAGER:
 Earl Liverman

 Ilow Stem Auger
 TDD #:
 07-03-0004

 A
 START PROJECT #:
 002233.0193.01SF

START PROJ MGR: Steve Hall

PROJECT LOCATION: Avery, Idaho

PROJECT NAME: Avery Landing

SSID #: 10ZZ

_						•					
	ELEVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM			nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	Ground Surface	Elevation	1				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
ENESTART WELL LOG B (AVERY) START_AVERY3.GPJ E&EPORTLAND.GDT 7/31/07	1	1 — 2 — 3 — 4 — 4 — 5 — 6 — 7 — 111 — 112 — 113 — 114 — 115			▼	FILL	WELL GRADED SAND WITH GRAVEL. Moderate brown, dry, dense, medium to very coarse grained sand with fractured gravel and some silt.		4 5 5 7 12 15 9 14	0.5	Hydrocarbon odor and sheen on groundwater



PROJECT NAME: Avery Landing WELL NO.: ESB 01

Page 1 of 1

DATE DRILLED: 4/18/2007 PROJECT NAME: Avery Landing LOGGED BY: Jeff Fowlow PROJECT LOCATION: Avery, Idaho CHECKED BY: S. Hall SSID #: 10ZZ

CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder EPA TASK MANAGER: Earl Liverman
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A
LOCATION: Avery, ID

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
ENESTART WELL LOGB (AVERY) START_AVERY3.GPJ E&EPORTLAND.GDT 7/31.07 1			SPG	Not Sampled. 1.0 WELL GRADED GRAVELLY SAND (SPG) Medium brown, dry, dense, medium to very coarse grained sand with gravel, cobbles and burnt wood fragments.			1.0	Began drilling at 2:05:00 PM. Auger was refused at the first location at a depth of 3.0 feet. Relocated 3.0' to the East. Auger was refused at 5.0'. A third attempt was refused at 3.0'

PROJECT NAME: Avery Landing WELL NO.: ESB 02

Page 1 of 1

DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A

LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
1—				Not Sampled.				
2-				3.0				
3— - 4— -				WELL GRADED SAND WITH GRAVEL. Medium brown, dry, very dense, medium to coarse grained sand with fractured gravel.			1.0	
5—			FILL	G		12 13 31 18	0.7	
6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 15 - 15 - 15 - 15 - 15 - 15						10 13 20 Ref	IR <0.3'	Insufficient recovery.
9-				10.0 POORLY GRADED SAND (SP)		12 13 16 18	IR <0.3'	Slight hydrocarbon odor.
11 —	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		SP	Tan to gray, dry to moist (wet at depths greater than 11.5'), dense, medium grained sand with laminae of silt, increasing silt with depth.		1	IR	Insufficient recovery.
12 —				_13.0		2 5 9	<0.3'	Strong hydrocarbon odor. Product present. Insufficient recovery.
14 —								



ENESTART WELL LOGB (AVERY) START_AVERY3.GPJ E&EPORTLAND.GDT 7/31/07

PROJECT NAME: Avery Landing WELL NO.: ESB 03

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DATE DRILLED: 4/18/2007 PROJECT NAME: Avery Landing LOGGED BY: Jeff Fowlow PROJECT LOCATION: Avery, Idaho CHECKED BY: S. Hall SSID #: 10ZZ

DRILLING CONTRACTOR: Environmental West Exploration, Inc.
DRILLED BY: Randy Wilder EPA TASK MANAGER: Earl Liverman

 DRILLING METHOD:
 Hollow Stem Auger
 TDD #:
 07-03-0004

 VERTICAL DATUM:
 N/A
 START PROJECT #:
 002233.0193.01SF

 LOCATION:
 Avery, ID
 START PROJ MGR:
 Steve Hall

ELEVATION	DEPTH (feet)	WELL COMPLETI DIAGRAN		GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	Uojika a di		Ž		SN SW-SM SWG	ground surface (gs) Not Sampled. 3.0 WELL GRADED SAND (SW) Medium brown, dry, very dense, medium to very coarse grained sand with fractured medium grained gravel. WELL GRADED SAND AND SILTY SAND (SW-SM) Gray, moist, fine grained sand with silty interbeds WELL GRADED SAND WITH GRAVEL (SWG) Dry, very dense, medium to very coarse sand with fractured gravel POORLY GRADED SAND (SP) Gray, dry, medium dense, medium grained sand. SILTY SAND (SM) Dark gray, stiff, slight plasticity silt with fine sand.	SA	15 17 40 35 10 13 15 20 6 8 16 10	1.0	This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered. Hydrocarbon odor and sheen. Hydrocarbon odor, no sheen. Strong hydrocarbon odor. Strong hydrocarbon odor, product present.



PROJECT NAME: Avery Landing WELL NO.: ESB 04

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DATE DRILLED: 4/19/2007 PROJECT NAME: Avery Landing LOGGED BY: Jeff Fowlow PROJECT LOCATION: Avery, Idaho CHECKED BY: S. Hall SSID #: 10ZZ

CHECKED BY: S. Hall SSID #: 10ZZ

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder EPA TASK MANAGER: Earl Liverman
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A
LOCATION: Avery, ID

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

	ELEVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	USCS	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	Ground Surface Flevation					ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
		- 1- - 2-				Not Sampled.				
707		3— - 4— - 5—			SWG	WELL GRADED SAND WITH GRAVEL (SWG) Black to gray, moist, dense, medium to very coarse grained sand with fractured gravel.		6 6 12 22	0.7	Hydrocarbon odor and sheen.
START_AVERY3.GPJ E&EPORTLAND.GDT 7/31/07		6— - 7—				7.5		15 9 8 10	0.8	
Y3.GPJ E&EPO		8— - 9—			MLS	SANDY SILT (MLS) Gray, moist, medium stiff, moderate plasticity, silt with fine grained sand. 9.5	$\left\langle \right\rangle$	4 2 2	1.5	Strong hydrocarbon odor and slight sheen.
START_AVER		0 -		<u> </u>	SW	WELL GRADED SAND (SW) Brown to black, wet, very dense, medium to very coarse sand. 11.0 Increasing gravel with depth.		2 5 13 16	1.7	
LOGB (AVERY)	1.	2 —			SWG	WELL GRADED GRAVELLY SAND (SWG) Brown to black, wet, very dense, medium to very coarse sand with gravel.		17 15 25 50	1.5	Black oily liquid with strong hydrocarbon odor.
ENESTART WELL LOGB (AVERY)	1:	4 — 5						10 4 17 18	1.2	

PROJECT NAME: Avery Landing WELL NO.: ESB 05

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
16 —			SWG	16.0 WELL GRADED GRAVELLY SAND		5 13 17 15	1.2	
17 —			SWG	WITH SILT (SWG) Light to dark gray, dry to moist, dense, fine to coarse silty sand with fine gravel and rounded cobbles.		8 18		Hydrocarbon odor with no product due to increased silt content.
19 —			MLS	18.5 19.0 SANDY SILT (MLS) Yellowish orange, moist, medium stiff, sandy silt.	\bigcirc	17 5	1.0	No hydrocarbon sheen or odor.
20 —				WELL GRADED SILTY SAND WITH GRAVEL (SW-SM) Light brown, dry to moist, dense, fine to mostly coarse sand with	\bigwedge	15 19 22 17		No hydrocarbon sheen or odor.
22 —			SW-SM	rounded gravel and silt.		11 19 25 20		No hydrocarbon sheen or odor.
23 — - 24 —						13 18	1.1	
25 —				_25.0		23 25		
26 —								
27 —								
28 —								
29 —								
30 —								
31 — A								
32 —								
33 —								
26 — 27 — 27 — 27 — 27 — 27 — 27 — 27 —								
35 —								



PROJECT NAME: Avery Landing WELL NO.: ESB 05

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DATE DRILLED: 4/19/2007 PROJECT NAME: Avery Landing LOGGED BY: Jeff Fowlow PROJECT LOCATION: Avery, Idaho CHECKED BY: S. Hall SSID #: 10ZZ

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A

LOCATION: Avery, ID

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman

TDD #: 07-03-0004 START PROJECT #: 002233.0193.01SF START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	uscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
1				Not Sampled.				
3- 4- 5-			FILL	SILTY SAND WITH GRAVEL. Light brown, dry, medium dense, fine sand to silt with fractured gravel and fragments of cinder and brick.		30 18 5 20	1.0	
PORTLAND.GDT 7/31				7.5 SANDY SILT (MLS)		18 9 22 32 32 8 12	1.0	
START_AVERY3.GPJ E&EPORTLAND.GDT 7/31/07			MLS	Olive gray, moist, medium stiff, moderate plasticity, sandy silt.		14 15 7 7 5 6	1.2	Hydocarbon odor.
ENESTART WELL LOGB (AVERY) STA	₽	,	SW	WELL GRADED SAND (SW) Dark gray, wet, medium dense, fine to coarse sand.		2 3 6 16	1.5	Strong hydrocarbon odor. Oily liquid present.
EN E START WE 14 — 15								

PROJECT NAME: Avery Landing WELL NO.: ESB 06

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DATE DRILLED: 4/19/2007 PROJECT NAME: Avery Landing LOGGED BY: Jeff Fowlow PROJECT LOCATION: Avery, Idaho CHECKED BY: S. Hall SSID #: 10ZZ

CHECKED BY: S. Hall SSID #: 10ZZ

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder EPA TASK MANAGER: Earl Liverman
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A
LOCATION: Avery, ID

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	uscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
				Not Sampled.				
1—								
-								
2-								
1 1				3.0				
3-		\bowtie		POORLY GRADED SAND.	\ /			
4-		\bowtie		Black, dry, medium dense, very coarse grained sand and cinder.	$ \bigvee $	8 12	1.2	
		\bowtie	FILL	course grained cand and cinder.	/	13 9	1.2	
5-		\bowtie			$\left\langle \cdot \cdot \right\rangle$			
-				5.5 SANDY SILT (MLS)	$ \cdot $	8		
6-				Olive gray, moist to dry, stiff,	X	20 12	1.1	Hydrocarbon odor.
] -				medium plasticity, fine sand and silt with occasional gravel.		10		
7-			MLS	with occasional graves.				
8 -					$ \vee $	7 7	1.2	
					$ \wedge $	5 7	1.2	
9-				9.0	$\langle - \rangle$			
6— 7— 8— 9— 10—				*** Sampler blocked by wood Fragments ***	$ \setminus / $	4		
10 —				9	X	6 12	0.8	Hydrocarbon odor and
-					/	17		sheen.
1 77 -								
12					$ \vee $	7 7 5	_	
					$ \wedge $	5 6	?	Black wood fragments possibly stained by
12 — 13 — 14 — 14 —					$\langle - \rangle$	-		hydrocarbons.
					\setminus	9		
14-		. •		14.0	X	9 12 13	0.8	Hydrocarbon odor and
			GW		/	13 12		heavy sheen.
15	II <u>Y</u>				<i>v</i> \			



ENESTART WELL LOGB (AVERY) START_AVERY3.GPJ E&EPORTLAND.GDT 7/31/07

PROJECT NAME: Avery Landing WELL NO.: ESB 07

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ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
16 — - 17 —			GW	WELL GRADED GRAVEL (GW) Light to dark gray, moist to wet, medium dense, fine to coarse fractured gravel with silt and fine and. (continued)			1.0	Hydrocarbon odor and product present.
18 —								
20 —								
23 —								
26 —								
28 —								
31 —								
33 —								
35 —								

PROJECT NAME: Avery Landing WELL NO.: ESB 07

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DATE DRILLED: 4/16/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

START PROJ MGR: Steve Hall

ELEVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	## Elevation The control of the c	Heavy Gauged Steel Protective Casing 2" PVC Cement Hydrated Bentonite chips 20-slot V-wire screen 10/20 Filter sand		FILL	ground surface (gs) Not Sampled 2.0 WELL GRADED SAND WITH GRAVEL. Moderate brown, dry, medium dense, fine to medium grained, with fractured fine to coarse gravel. POORLY GRADED SAND WITH GRAVEL AND SILT. Moderate brown with flecks of red, black, and tan, dry, dense, fine grained sand with lesser coarse sand. Fractured fine to coarse gravel with moist silt. POORLY GRADED SAND WITH GRAVEL AND SILT. Moderate brown, dry to moist (at 7.5'), dense, fine to medium grained sand, with fractured fine to medium gravel. Not Sampled 10.0 Not Sampled	Š	20 48 23 25 15 10 8 7	1.2	This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
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Page 1 of 1

DATE DRILLED: 4/17/2007 PROJECT NAME: Avery Landing LOGGED BY: Jeff Fowlow PROJECT LOCATION: Avery, Idaho CHECKED BY: S. Hall SSID #: 10ZZ

DRILLING CONTRACTOR: Environmental West Exploration, Inc.
DRILLED BY: Randy Wilder EPA TASK MANAGER: Earl Liverman

DRILLING METHOD: Hollow Stem Auger

VERTICAL DATUM: Arbitrary Site Datum

LOCATION: Avery, ID

DRILLING METHOD: Hollow Stem Auger

START PROJECT #: 07-03-0004

START PROJECT #: 002233.0193.01SF

START PROJ MGR: Steve Hall

ELEVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
3 (AVERY) START_AVERY1.GPJ E&EPORTLAND.GDT 7/31/07	\exists	Heavy Gauged Steel Protective Casing 2" PVC Cement Hydrated Bentonite Chips 10/20 Filter Sand 20-slot V-wire screen	GRAPI	FILL MLS	ground surface (gs) Not Sampled WELL GRADED SAND WITH GRAVEL. Moderate brown, dry, medium dense, fine to coarse grained with fractured fine to coarse angular gravel and some silt. SANDY SILT(MLS) Black, moist, soft, slightly plastic silt with roots and casts. 8.0 SILTY SAND (SM) 9.0 Black, moist to wet, medium dense, fine to coarse grained sand. Not Sampled. Likely fractured rock.	SAMPI	MOTB 15519 12 1 1 4 5 3 3 127 17	1.3	This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may of time. The data presented is a simplification of actual conditions encountered. Moderate hydrocarbon odor. Moderate hydrocarbon odor. Hydrocarbon product. Sample blocked by cobble, low recovery.
ENESTART WELL LO	- 15 — - 16 — - 17				_16.0				



PROJECT NAME: Avery Landing WELL NO.: EMW 02

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DATE DRILLED: 4/17/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation 97.9 ft	Heavy Gauged Steel Protective Casing			ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
- 1- - 2-	2" PVC Cement Hydrated Bentonite Chips			Not Sampled.				
-95 ₃ - 4 - 5-				3.0 Not Sampled. Slough. 5.0 Not Sampled. Woody Debris		5 3 3 2	0.3	
- 6- - 7- - 7- - 90 8-	10/20 Filter Sand			Not Gampioa. Weday Besile			0.3	
START_AVERY 1.GPJ E&E PORTLAND.GDT 7/31/07	20-slot V-wire screen			9.0 Not Sampled.			0.3	
4VERY 1.GPJ - 82 13 - 11 - 12 - 12 - 13 - 14 - 15 - 15 - 15 - 15 - 15 - 15 - 15			MLS	SANDY SILT WITH CLAY (MLS) Dark Brown, moist to wet, medium stiff, slight plasticity, with fine sand 13.0 and clay. SANDY GRAVEL WITH SILT		3 5 6 8	2.0	
			GWS	(GWS) Dark gray, wet, medium dense, fine to coarse, rounded gravel with coarse sand and some silt packed	X	8 10 13 13	1.2	
EN ESTART WELL LOG B (AVERY) - 91				tightly in pore spaces. Not Sampled.				
EN ESTAR - 20 - 20				19.0	-			Refusal

ecology and e

PROJECT NAME: Avery Landing WELL NO.: EMW 03

DATE DRILLED: 4/17/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

	1							
ELEVATION	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
	2" PVC Cement Hydrated Bentonite Chips			Not Sampled.				
				SANDY GRAVEL (GPS) Coarse, fractured gravel with sand.		4 4 4 2	IR <.3	Difficult drilling. Lithology based on drill cuttings. Insufficient recovery.
77.31.07	Sand	0000			\nearrow	4 5 8 12	IR <.3	Insufficient recovery.
ORTLAND.GD			GPS		$\langle \rangle$	15 14 14 15	IR <.3	Insufficient recovery.
START_AVERY1.GPJ E&EPORTLAND.GDT 7/31/07					\nearrow	9 7 6 6		Insufficient recovery. Sampler saturated:
START_AVE				13.0	\bigwedge	8 9 12 14	IR <.3	Hydocarbon sheen on groundwater. Insufficient recovery. Oily hydrocarbon product
ENESTART WELL LOG B (AVERY) 11			GPS	SANDY GRAVEL (GPS) Coarse, fractured gravel with sand. 15.0 Not Sampled.			~ 3	evident on downhole tools. Cuttings adhering to auger upon removal due to high silt content. Insufficient
TART WELL LC	- I			17.0				recovery.
S EN EN EN	4							



PROJECT NAME: Avery Landing WELL NO.: EMW 04

Page 1 of 1

DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman TDD #: 07-03-0004 START PROJECT #: 002233.0193.01SF

START PROJ MGR: Steve Hall

FI EVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface	Elevation 100.02 ft	Heavy Gauged Steel Protective Casing			ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
-	1— 2— 2—	Cement 2" PVC Hydrated Bentonite Chips			Not Sampled.				
- -9 -	3— 4— - 5 5— 6—			SWG	WELL GRADED SAND WITH GRAVEL (SWG) Moderate brown, dry, medium dense to dense, medium to very coarse sand with some silt and fractured gravel. Increasing silt and		4 6 14 16 6 4 4	0.7	
AND.GDT 7/31/07	7— 7— 8— 9—	10/20 Filter Sand 20-Slot V-wire		3₩0	moisture with depth. 9.5		5 5 6 5 6	0.4	
GPJ E&E PORTL	10 — - 11 — - 12 —	screen		MLS	SANDY SILT (MLS) Black, moist, moderate plasticity, fine grained sand with silt and roots. Increasing rounded gravel with depth.		2 3 6 7	1.5	Strong hydrocarbon odor
) START_AVERY1	13 — - 14 —	□ □ □		SWG	WELL GRADED SAND WITH GRAVEL (SWG) Dark gray, wet, very dense, very fine to coarse grained sand with rounded 15.0 fine to coarse gravel and some silt.		6 8 17 22 30 38		Strong hydrocarbon odor Strong hydrocarbon odor and rainbow sheen with drops of black product
ENESTART WELL LOGB (AVERY) START_AVERY 1.GPJ E&E PORTLAND.GDT 7/31/07	5 15 — 16 — - 17 —				Not Sampled. Gravel in drill cuttings.				Difficult drilling
ENESTART WEI	18 — - 19 — - 20				_19.5				Refusal



DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY:
DRILLING METHOD:
VERTICAL DATUM:
LOCATION:
Arbitrary Site Datum
Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG USCS	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation 99.15 ft	Heavy Gauged Steel Protective Casing		ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
_ 1-	Cement 2" PVC Hydrated Bentonite Chips		Not Sampled. Black glassy sand/gravel/cinder				
_ 3·	- - - -		WELL GRADED SAND WITH GRAVEL (SWG) Moderate brown, dry, dense, medium to very coarse grained sand with fractured gravel and some silt.		8 6 8 9	1.0	
5. 100	- - - 10/20 Filter	SWG	7.5		10 8 6 9	0.5	
- 90 - 90 - 90 - 90	Sand 20-slot V-wire screen	MLS	SANDY SILT (MLS) Black, moist, soft, slight plasticity silt with fine sand and roots.		3 1 1 1	1.2	Hydrocarbon odor and sheen.
		SWG	WELL GRADED SAND WITH GRAVEL (SWG) Black, moist to wet, medium dense, fine to very coarse grained sand		3 3 8 15	1.3	Hydrocarbon odor and oily liquid present.
11 · 12 · 13 · 14 · 14		GWS	with decreasing silt and increasing gravel content with depth. WELL GRADED GRAVEL WITH SAND (GWS) Gray, wet, dense, fine to coarse grained gravel with modium to		13 15 28 36	IR	Sample stained black with oily liquid. Insufficient recovery.
13		gws	grained gravel with medium to coarse sand and some silt present.				iccovery.



ELEVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION RECOVERY (FT) RECOVERY (FT)
-85	-		X	GWS	WELL GRADED GRAVEL WITH SAND (GWS) 15.0 Cray was depos fine to goorse
-	15 — - 16 —			GWS	Gray, wet, dense fine to coarse grained gravel with medium to coarse sand and some silt and cobbles present. (continued) WELL GRADED GRAVEL WITH 17.0 SAND (GWS) R Cuttings show oily liquid. Easier drilling. Insufficient recovery.
_	17 — - 18 —			GWS	Gray, wet, dense, fine to coarse grained gravel with medium to coarse sand and some silt. Increased sand/fine gravel content from last sample. IR Difficult drilling. Insufficient recovery.
-80	19 - 20 -	' '			WELL GRADED GRAVEL WITH SAND (GWS) Gray, wet, dense, fine to coarse grained gravel with medium to
	21 —				coarse sand. Increased coarse gravel from last sample.
_	22 —				
-	23 —				
20 - 75	24-				
D.GDT 7/3	25 —				
PORTLAN	26 -				
1.GPJ E&E	27-				
RT_AVERY	28 —				
ERY) STAR	30 —				
ENESTART WELL LOGB (AVERY), START_AVERY 1.GPJ E&EPORTLAND.GDT 7/31.07	31 —				
ART WELL	32 —				
ENEST,	33 —				

Borehole Logs 2009 Potlatch Field Investigation

RECORD OF BOREHOLE BH-01 SHEET 1 of 1 PROJECT: Potlatch/Avery Landing/Idaho DRILLING METHOD: HSA PROJECT NUMBER: 073-93312-03 DRILLING DATE: 08-28-09 LOCATION: T45N, R5E Section 15 DRILL RIG: HSA DATUM: NAVD 88 ELEVATION: 2483.27 STATION: N/A INCLINATION: -90 COORDINATES: N: 2,035,323.08 E: 2,607,330.39 SOIL PROFILE SAMPLES PENETRATION RESISTANCE **BORING METHOD** BLOWS / ft ■ DEPTH (ft) GRAPHIC LOG ELEV. 20 30 NOTES REC / ATT NUMBER PID Sheen WATER LEVELS DESCRIPTION Reading WATER CONTENT (PERCENT) DEPTH -oW W_p PPM 40 60 - 0 0.0 - 7.0 Very dense, light brown, angular coarse GRAVEL, some sand, dry. (GP) (FILL) 1 SPT 2.4 Ν 1.5 GΡ - 5 2476.3 7.0 - 15.0 d Very dense, light brown, fine sandy SILT, some gravel, moist. (ML) 2 SPT 1.5 2.0 HSA - 10 ML * LNAPL observed in soil at 13 ft bgs. - 15 15.0 - 20.0 15.0 Very dense, grey, fine SAND, trace fine gravel, wet. (SP) Υ 3. .ŞPT 1.5 * Small pockets of LNAPL in sample (2cm). * Petroleum-like sheen on water suface. SP 2463.3 - 20 Boring completed at 20.0 ft. 20.0 - 25 BOREHOLE-BB AVERY-POTLACH LOGS.GPJ BRENDA.GDT 1/7/10 - 30 - 35 40 LOGGED: A. Cote 1 in to 5 ft DRILLING CONTRACTOR: Northwest CHECKED: D. Morell Golder DRILLER: B. Johnson DATE:

RECORD OF BOREHOLE BH-02 SHEET 1 of 1 PROJECT: Potlatch/Avery Landing/Idaho DRILLING METHOD: HSA PROJECT NUMBER: 073-93312-03 DRILLING DATE: 08-28-09 DATUM: NAVD 88 ELEVATION: 2483.3 STATION: N/A INCLINATION: -90 LOCATION: T45N, R5E Section 15 DRILL RIG: HSA COORDINATES: N: 2,035,331.93 E: 2,607,381.18 SOIL PROFILE SAMPLES PENETRATION RESISTANCE **BORING METHOD** BLOWS / ft ■ DEPTH (ft) GRAPHIC LOG ELEV. 20 30 NOTES REC / ATT NUMBER PID Sheen WATER LEVELS DESCRIPTION WATER CONTENT (PERCENT) Reading DEPTH -oW W_p PPM 40 60 - 0 0.0 - 6.5 Very dense, light brown, angular coarse GRAVEL, some sand, dry. (GP) (FILL) 1 SPT Ν 1.5 GP - 5 2 SPT 1.5 6.5 6.5 - 7.5 Black, fine SAND, fine some fine gravel. 7.5 - 10.2 Very dense, brown to black streaked, fine GRAVEL, some sand, trace silt, damp. (GP) SP 2475.8 3 SPT 2.8 1.5 GΡ HSA 2473.1 10 10.2 - 15.0 10.2 SPT 1.9 Very dense, brown silty fine GRAVEL, 1.5 some sand, damp. (GM) ₹ - 15 15.0 - 20.0 15.0 Very dense, grey, SAND, some fine silt, trace fine gravel, wet. (SM) Υ .SPT ٠5٠ 21.9 1.5 * Petroleum-like product oozing from sand. SM 2463.3 - 20 Boring completed at 20.0 ft. - 25 BRENDA.GDT - 30 AVERY-POTLACH LOGS.GPJ - 35 BOREHOLE-BB 40 1 in to 5 ft LOGGED: A. Cote DRILLING CONTRACTOR: Northwest CHECKED: D. Morell Golder DRILLER: B. Johnson DATE:

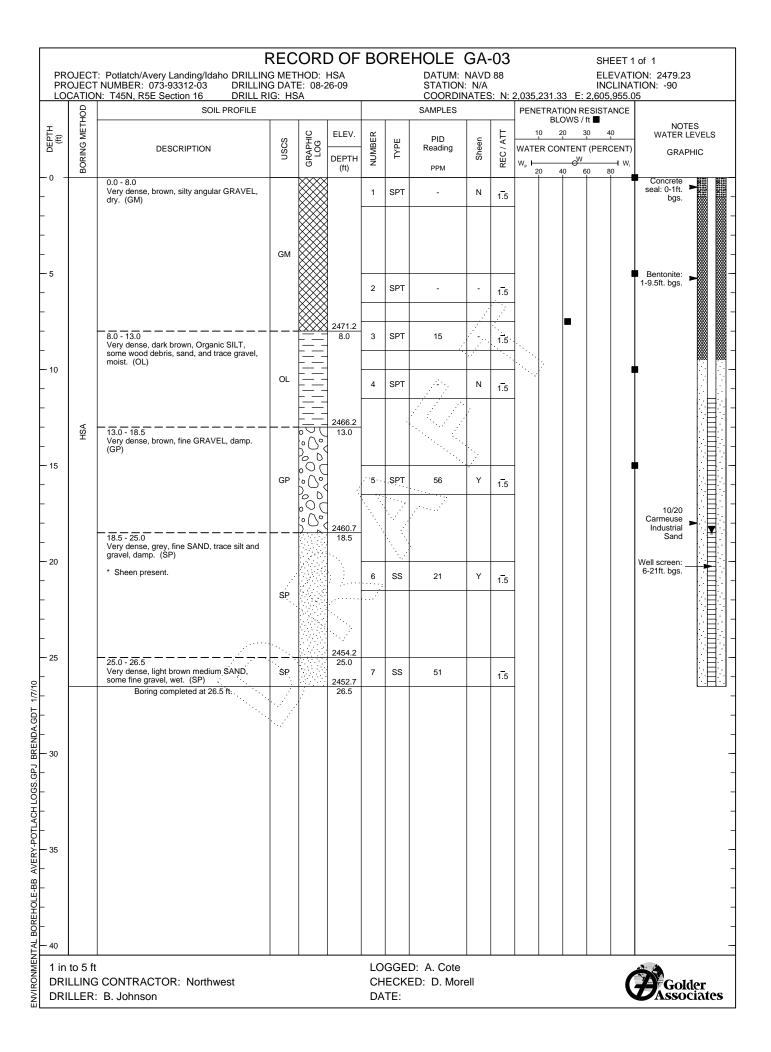
RECORD OF BOREHOLE BH-03 SHEET 1 of 1 PROJECT: Potlatch/Avery Landing/Idaho DRILLING METHOD: HSA PROJECT NUMBER: 073-93312-03 DRILLING DATE: 08-27-09 LOCATION: T45N, R5E Section 15 DRILL RIG: HSA DATUM: NAVD 88 ELEVATION: 2483.53 STATION: N/A INCLINATION: -90 COORDINATES: N: 2,035,344.56 E: 2,607,447.83 SOIL PROFILE SAMPLES PENETRATION RESISTANCE **BORING METHOD** BLOWS / ft ■ DEPTH (ft) GRAPHIC LOG ELEV. 20 30 NOTES REC / ATT NUMBER PID Sheen WATER LEVELS DESCRIPTION WATER CONTENT (PERCENT) Reading DEPTH -oW W_p PPM 40 60 - 0 0.0 - 7.5 Very dense, light brown, angular, coarse GRAVEL, some sand and wood debris, dry. (GP) (FILL) 1 SPT Ν 1.5 * Dark, fine grained material at 6-7 ft bgs. - 5 2 SPT 8.8 Ν 1.5 2476.0 HSA 7.5 - 10.0 Very dense, dark brown, fine SAND, trace 3 SPT Y. 1.5 gravel, damp. (SP) SP 2473.5 10 10.0 - 11.5 10.0 Very dense, black silty CLAY, moist. (CL-ML) CL-ML SPT Υ 1.5 11.5 *Petroleum-like odor and sheen present. 11.5 - 15.5 Very dense, grey, fine GRAVEL, some sand, moist to wet. (GP) 5 D 00 * Petroleum-like floating on ground water. ₹ 6 D - 15 2468.0 Boring completed at 15.5 ft. 15.5 - 20 - 25 BRENDA.GDT 1/7/10 - 30 BOREHOLE-BB AVERY-POTLACH LOGS.GPJ - 35 40 1 in to 5 ft LOGGED: A. Cote DRILLING CONTRACTOR: Northwest CHECKED: D. Morell Golder DRILLER: B. Johnson DATE:

RECORD OF BOREHOLE BH-04 SHEET 1 of 1 PROJECT: Potlatch/Avery Landing/Idaho DRILLING METHOD: HSA PROJECT NUMBER: 073-93312-03 DRILLING DATE: 08-27-09 LOCATION: T45N, R5E Section 15 DRILL RIG: HSA DATUM: NAVD 88 **ELEVATION: 2481.90** STATION: N/A INCLINATION: -90 COORDINATES: N: 2,035,368.59 E: 2,607,393.18 SOIL PROFILE SAMPLES PENETRATION RESISTANCE **BORING METHOD** BLOWS / ft ■ DEPTH (ft) GRAPHIC LOG ELEV. 20 30 NOTES REC / ATT NUMBER PID Sheen WATER LEVELS DESCRIPTION WATER CONTENT (PERCENT) Reading -oW W_p PPM 40 60 - 0 0.0 - 7.5 Very dense, light brown, angular coarse GRAVEL, some sand, dry. (GP) (FILL) 1 SPT Ν 1.5 - 5 2474.4 HSA 7.5 - 14.5 Very dense, light brown, fine to medium SAND, some coarse gravel (<2"), moist. (SP) 2 SS 196 1.5 0. (* At about 8' dark bluish black staining, 0 - 10 petroleum-like odor and sheen observed. 0 o. 0 2467.4 Ţ SM 2466.9 14.5 - 15.0 - 15 Very dense, light brown, medium silty SS 250 1.5 SAND, trace fine gravel, wet. (SM) * Petroleum-like odor and sheen present. Boring completed at 15.0 ft. - 20 - 25 BRENDA.GDT 1/7/10 - 30 BOREHOLE-BB AVERY-POTLACH LOGS.GPJ - 35 40 1 in to 5 ft LOGGED: A. Cote DRILLING CONTRACTOR: Northwest CHECKED: D. Morell Golder DRILLER: B. Johnson DATE:

RECORD OF BOREHOLE BH-05 SHEET 1 of 1 PROJECT: Potlatch/Avery Landing/Idaho DRILLING METHOD: HSA PROJECT NUMBER: 073-93312-03 DRILLING DATE: 08-27-09 LOCATION: T45N, R5E Section 15 DRILL RIG: HSA DATUM: NAVD 88 ELEVATION: 2482.62 STATION: N/A INCLINATION: -90 COORDINATES: N: 2,035,382.28 E: 2,607,478.09 SOIL PROFILE SAMPLES PENETRATION RESISTANCE **BORING METHOD** BLOWS / ft ■ DEPTH (ft) GRAPHIC LOG ELEV. 20 30 NOTES REC / ATT NUMBER PID Sheen WATER LEVELS DESCRIPTION WATER CONTENT (PERCENT) Reading DEPTH -oW W_p PPM 40 60 - 0 0.0 - 5.0 Very dense, light brown, angular coarse GRAVEL, some sand, dry. (GP) (FILL) 1 SPT Ν 1.5 GΡ 2477.6 - 5 Very dense, brown to black, SILT, some gravel, moist. (ML) φ 2 SPT 300 1.5 ML * Petroleum-like odor and sheen present. 2475.1 7.5 - 10.0 Very dense, greyish brown, coarse GRAVEL (<2"), some sand, damp. (GP) $\circ \bigcirc \circ$ HSA 90 C * Petroleum-like odor present. 2472.6 ¥ 10 10.0 - 15.0 10.0 Very dense, grey, sandy SILT, some fine gravel, moist. (ML) Φ *Petroleum-like odor and sheen present. ML - 15 15.0 - 17.0 15.0 Very dense, grey, fine GRAVEL, some sand, wet. (GP) 3. Υ SS 75 1.5 GΡ 6 D 2465.6 LNAPL observed on some gravel. * Sheen on water suface. Boring completed at 17.0 ft. - 20 - 25 BRENDA.GDT - 30 AVERY-POTLACH LOGS.GPJ - 35 BOREHOLE-BB 40 1 in to 5 ft LOGGED: A. Cote DRILLING CONTRACTOR: Northwest CHECKED: D. Morell Golder DRILLER: B. Johnson DATE:

RECORD OF BOREHOLE GA-01 SHEET 1 of 1 PROJECT: Potlatch/Avery Landing/Idaho DRILLING METHOD: HSA PROJECT NUMBER: 073-93312-03 DRILLING DATE: 08-26-09 LOCATION: T45N, R5E Section 16 DRILL RIG: HSA DATUM: NAVD 88 **ELEVATION: 2478.19** STATION: N/A INCLINATION: -90 COORDINATES: N: 2,035,039.29 E: 2,606,817.87 SOIL PROFILE SAMPLES **BORING METHOD** PENETRATION RESISTANCE BLOWS / ft ■ NOTES WATER LEVELS DEPTH (ft) GRAPHIC LOG ELEV. 20 30 REC / ATT NUMBER PID Sheen DESCRIPTION WATER CONTENT (PERCENT) Reading GRAPHIC -oW W_p PPM 40 60 - 0 Concrete 0.0 - 7.5 seal: 0-1ft. bgs. Very dense, dark brown SAND, some 1 SPT 1.5 angular coarse gravel, dry. (SP) (FILL) Bentonite: 1-4ft. bgs. GΡ - 5 2 SPT 1.5 2470.7 7.5 - 15.0 Very dense, brown, silty SAND, trace SPT 3 .3 1.5 gravel, moist. (SM) - 10 HSA SM Carmeuse Industrial Sand Well screen: 6-21ft. bgs. - 15 15.0 - 21.0 15.0 Very dense, brown, silty medium SAND, moist. (SM) Υ 4 .ŞPT 30.3 1.5 * LNAPL and sheen present. SC - 20 Boring completed at 21.0 ft. 21.0 - 25 BRENDA.GDT 1/7/10 - 30 BOREHOLE-BB AVERY-POTLACH LOGS.GPJ - 35 40 LOGGED: A. Cote 1 in to 5 ft DRILLING CONTRACTOR: Northwest CHECKED: D. Morell Golder DRILLER: B. Johnson DATE:

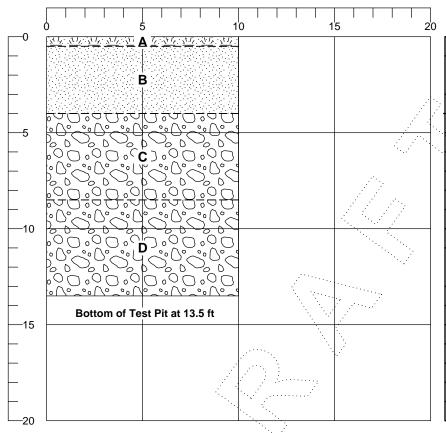
RECORD OF BOREHOLE GA-02 SHEET 1 of 1 PROJECT: Potlatch/Avery Landing/Idaho DRILLING METHOD: HSA PROJECT NUMBER: 073-93312-03 DRILLING DATE: 08-26-09 DATUM: NAVD 88 ELEVATION: 2472.74 STATION: N/A INCLINATION: -90 LOCATION: T45N, R5E Section 16 DRILL RIG: HSA COORDINATES: N: 2,035,167.80 E: 2,606,235.34 SOIL PROFILE SAMPLES **BORING METHOD** PENETRATION RESISTANCE BLOWS / ft ■ NOTES WATER LEVELS DEPTH (ft) /ATT GRAPHIC LOG ELEV. 20 30 NUMBER PID Sheen DESCRIPTION WATER CONTENT (PERCENT) Reading GRAPHIC REC/ DEPTH -oW W_p (ft) PPM 40 60 - 0 Concrete 0.0 - 1.5 Loose, light brown SILT, little organics (roots), dry (ML) (TOPSOIL) seal: 0-1.1ft. bgs. 1 SPT 1.5 2471.2 1.5 1.5 - 10.0 Very dense, dark brown, silty medium SAND, organics (roots), little angular coarse GRAVEL, some sand, moist. (SM) Bentonite: 1-4.1ft. bgs. - 5 SM 2 SPT 10.1 1.5 2462.7 HSA 10 10.0 - 15.0 10.0 Very dense, brown SAND, little gravel, trace silt, moist. (SP) SPT 1.5 0 10/20 Carmeuse Industrial Sand SP 0 0 Well screen: 6-21ft. bgs. - 15 15.0 - 20.0 15.0 Very dense, grey, silty medium SAND, little gravel, wet. (GP) 21.9 .ŞPT 4. 1.5 SM 2452.7 - 20 Boring completed at 20.0 ft. - 25 BRENDA.GDT - 30 AVERY-POTLACH LOGS.GPJ - 35 BOREHOLE-BB 40 1 in to 5 ft LOGGED: A. Cote DRILLING CONTRACTOR: Northwest CHECKED: D. Morell Golder Associates DRILLER: B. Johnson DATE:



RECORD OF BOREHOLE GA-04 SHEET 1 of 1 PROJECT: Potlatch/Avery Landing/Idaho DRILLING METHOD: HSA PROJECT NUMBER: 073-93312-03 DRILLING DATE: 08-25-09 DATUM: NAVD 88 ELEVATION: 2472.21 STATION: N/A INCLINATION: -90 LOCATION: T45N, R5E Section 16 DRILL RIG: HSA COORDINATES: N: 2,035,201.52 E: 2,606,541.81 SOIL PROFILE SAMPLES **BORING METHOD** PENETRATION RESISTANCE BLOWS / ft ■ NOTES WATER LEVELS DEPTH (ft) GRAPHIC LOG ELEV. 20 30 REC / ATT NUMBER PID Sheen DESCRIPTION WATER CONTENT (PERCENT) Reading GRAPHIC -oW W_p (ft) PPM 40 60 - 0 2471.7 0.5 Concrete 0.0 - 0.5 SM seal: 0-1ft. bgs. Loose, brown, silty SAND, some organics, 1 SS 1.5 moist. (SM) Very dense, brown, sandy GRAVEL, some pieces of concrete, dry. (GM) (FILL) Bentonite: 1-5ft. bgs. - 5 2 SS 1.5 2465.2 7.0 - 21.0 Very dense, brown, sandy medium GRAVEL, rounded, moist. (GP) 000 - 10 HSA 3 SS 1.5 10/20 Carmeuse Industrial Sand Well screen: 6-21ft. bgs. - 15 - 20 000 Boring completed at 21.0 ft. 21.0 - 25 BRENDA.GDT - 30 BOREHOLE-BB AVERY-POTLACH LOGS.GPJ - 35 40 1 in to 5 ft LOGGED: A. Cote DRILLING CONTRACTOR: Northwest CHECKED: D. Morell Golder Associates DRILLER: B. Johnson DATE:



NamePotlatch/Avery Landing/IdahoJob_073-93312-03LocationT45N, R5E Section 16ElevationDatum_NAVD 88Temp80 °F Weather SunnyDate_08-27-09Logged by F. IshiharaEquipmentCAT 315CContractor_Able Clean-upOperator_C. Smith



SAMPLES								
NO.	ı	DEPTH (ft)		MOISTU (%)	JRE			
1		2.5						
2		5.0						
3		7.5						
4		10.0						
5		12.5						
	-	TEST R	ESUL	_TS				
DEPT	Ή	WD	DD		ASSING 200			

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 0.5 ft: Compact, brown, silty SAND, some organics, dry. (SM) (TOPSQIL)
- **B** 0.5 4.0 ft: Compact, dark grey, angular, gravelly SAND, little silt and cobbles, dry. (SP) (FILL)*

*Black stained soil encountered at approximately 2' bgs.

- C 4.0 8.5 ft: Compact, brown, sandy, angular GRAVEL, little silt and cobbles, damp to moist. (GP) (FILL)
- D 8.5 13.5 ft: Compact, dark grey to black, rounded GRAVEL and COBBLES, trace silt and sand, damp. (GP) (ALLUVIUM)

TIME	DEPTH TO W/L (FT)	NOTES
10:10	13.5	

SPECIAL NOTES:

Groundwater encountered at approximately 13.5 ft bgs.

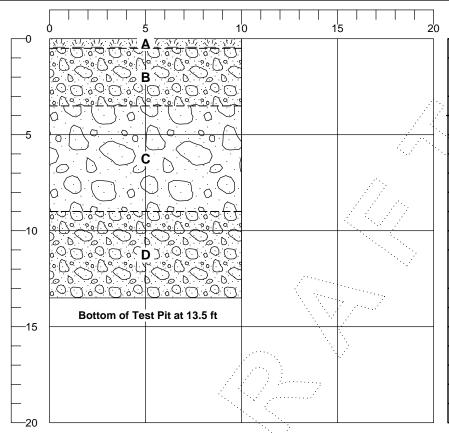
Petroleum-like odor begins at approximately 10' bgs.

Tree stump at bottom of test pit.

All excavated soil was placed back in test pit.



NamePotlatch/Avery Landing/IdahoJob _073-93312-03LocationT45N, R5E Section 16ElevationDatum _NAVD 88Temp80 °F Weather SunnyDate _08-27-09Logged by _F. IshiharaEquipmentCAT 315CContractor _Able Clean-upOperator _C. Smith



SAMPLES					
NO.	D	EPTH (ft)	M	OISTURE (%)	
1		2.5			
2		5.0			
3		8.0			
4	1	0.0			
5	1	12.5			
6	1	13.0			
	TEST RESULTS				

TEST RESULTS				
DEPTH	WD	DD	% PASSING #200	

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 0.5 ft: Compact, brown, silty SAND, some organics, dry. (SM) (TOPSQIL)
- **B** 0.5 3.5 ft: Compact, dark brown, angular, gravelly SAND, some cobbles, trace silt and debris (including beer cans), dry. (GP) (FILL)
- **C** 3.5 9.0 ft: Compact, brown, angular GRAVEL, some sand and cobbles, trace silt, moist. (GP) (FILL)
- **D** 9.0 13.5 ft: Compact, brown, sandy, angular GRAVEL, some angular cobbles, moist. (GP) (FILL)

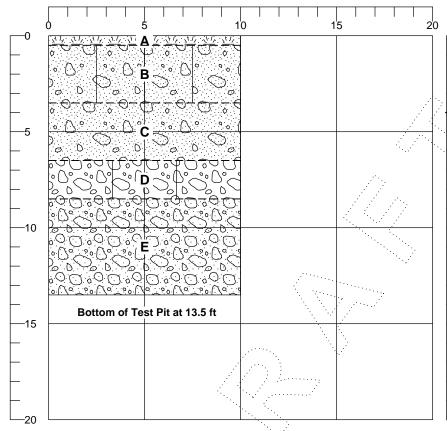
TIME	DEPTH TO W/L (FT)	NOTES
12:20	13.5	

SPECIAL NOTES:

Groundwater encountered at approximately 13.5 ft bgs.

No visibly impacted media.





SAMPLES					
NO.	DEPTH (ft)			M	OISTURE (%)
1		2.5			
2		5.0			
3		7.5	╛		
4		11.0			
5	13.5				
			╛		
	-	TEST R	E	SUL1	S
DEPT	DEPTH			DD	% PASSING #200
			L		
			L		
			L		

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 0.5 ft: Compact, brown, silty SAND, some organics, dry. (SM) (TOPSQIL)
- **B** 0.5 3.5 ft: Compact, dark grey, silty SAND, some angular gravel, cobbles and organic material, damp. (SM) (FILL)
- **C** 3.5 6.5 ft: Compact, black, silty SAND, some wood chips, trace gravel, moist. (SP) (FILL)
- **D** 6.5 8.5 ft: Compact, dark brown, sandy, rounded GRAVEL, some silt, moist to wet. (GP-GM) (ALLUVIUM)
- **E** 8.5 13.5 ft: Compact, brown, sandy, rounded GRAVEL, some silt and cobbles, moist to wet. (GP) (ALLUVIUM)

TIME	DEPTH TO W/L (FT)	NOTES
15:07	13.5	

SPECIAL NOTES:

Groundwater encountered at approximately 13.5 ft bgs.

Faint oil-like odor at approximately 11' bgs. Oil-like staining at approximately 13' bgs.

Petroleum-like sheen and droplets of oil-like product observed on water table.



Name_Potlatch/Avery Landing/IdahoJob_073-93312-03Location_T45N, R5E Section 16ElevationDatum_NAVD 88Temp_80_°F Weather_SunnyDate_08-27-09Logged by F. IshiharaEquipment_CAT 315CContractor_Able Clean-upOperator_C. Smith

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_ 5			
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
_ 10	Bottom of Test Pit at 8.0 ft		
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		,/*** 	· · · · · · · · · · · · · · · · · · ·
_ 15			
-			

	SAMPLES					
	NO.	I	DEPTH (ft)		М	OISTURE (%)
:]	1		2.5			
	2		5.0			
	3		8.0			
		•	TEST R	E	SULT	ſS
	DEPT	DEPTH WD		DD	% PASSING #200	
				Г		
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				Γ		

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

A 0.0 - 0.5 ft: Compact, brown, silty SAND, some gravel and organics, dry. (SM) (FILL)

B 0.5 - 6.0 ft: Compact, brown, sandy angular to rounded GRAVEL and COBBLES, trace silt, dry. (GP)

(FILL)

C 6.0 - 8.0 ft: Compact, grey, sandy GRAVEL and

COBBLES, moist to wet. (GP) (ALLUVIUM)

TIME	DEPTH TO W/L (FT)	NOTES
16:20	8.0	

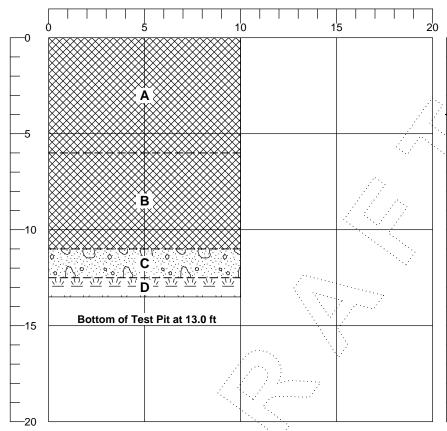
SPECIAL NOTES:

Groundwater encountered at approximately 8 ft bgs.

No impacted media observed.



NamePotlatch/Avery Landing/IdahoJob_073-93312-03Location_T45N, R5E Section 16ElevationDatum_NAVD 88Temp_80_°F Weather_SunnyDate_08-27-09Logged by F. IshiharaEquipment_CAT 315CContractor_Able Clean-upOperator_C. Smith



SAMPLES					
NO.	DEPTH (ft)	MOISTURE (%)			
1	2.5				
2	5.0				
3	7.5				
4	10.5				
5	11.0				
6	13.0				
	TEST RESULTS				

TEST RESULTS					
DEPTH	WD	DD	% PASSING #200		

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

A 0.0 - 6.0 ft: Compact, brown, angular GRAVEL and COBBLES, little sand and derbris (chunks of concrete), trace silt, damp. (GP) (FILL)

B 6.0 - 11.0 ft: Loose, black WOOD CHIPS, some gravel and cobbles, damp. (WOOD DEBRIS)

C 11.0 - 12.5 ft: Loose, grey SAND and rounded GRAVEL, trace silt, moist. (SP)

D 12.5 - 13.5 ft: Loose, black WOOD CHIPS, damp. (WOOD DEBRIS)

Test pit re-excavated approximately 40' east. Logs were encountered again at the new location.

TIME	DEPTH TO W/L (FT)	NOTES
09:30	11.0	

SPECIAL NOTES:

Groundwater encountered at approximately 11 ft bgs.

No impacted media enountered.

Bucket refusal at approximately 13 ft bgs on large pieces of timber.



_		
Name Potlatch/Avery Landing/Idaho		Job 073-93312-03
Location T45N, R5E Section 16	Elevation	Datum NAVD 88
Temp 80 °F Weather Sunny	Date 08-28-09	Logged by F. Ishihara
Equipment CAT 315C	Contractor Able Clean-up	Operator C. Smith

	0 5	10	0 1	5 2	0				
	000000000000000000000000000000000000000	0000] [SAM	PLES	
		000				NO.	DEPTH	М	OISTURE
_							(ft)	4	(%)
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	0 0 0 0 0 0 0 0 0 0 0						ŢEST R	ESUL [*]	rs
	Bottom of Test Pit at 1	1.0 ft				DEPTI	н wd	DD	% PASSING #200
_				Transport			_		#200
-							_		
 15			<u>``.</u>	<u></u>					
					l				
20									

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

A 0.0 - 11.0 ft: Loose, brown, sandy GRAVEL, little cobbles and organics (including wood chips and 30"diameter logs), dry to moist. (GP) (FILL)

TIME	W/L (FT)	NOTES

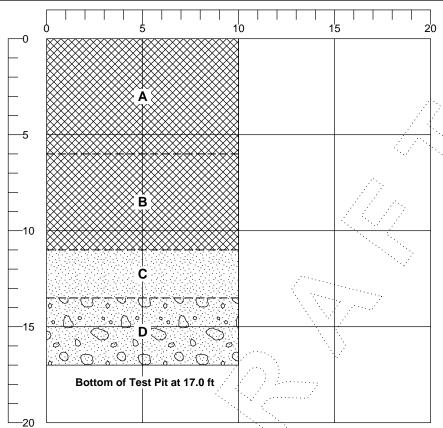
SPECIAL NOTES:

No groundwater encountered.

DEDTH TO

Bucket refusal at approximately 11 ft bgs on large pieces of timber.





	SAMPLES						
NO.	DEPTH (ft)			М	OISTURE (%)		
1	2.5						
2	5.0						
3	7.5						
4	10.0						
5	12.5						
6	15.0						
7	17.0						
	TEST RESULTS						
DEPT	Н	WD		DD	% PASSING		

DEPTH	WD	DD	% PASSING #200

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- A 0.0 6.0 ft: Compact, brown, angular GRAVEL, some cobbles, trace sand, dry to damp. (GP) (FILL)
- **B** 6.0 11.0 ft: Loose, black WOOD CHIPS, little gravel and cobbles, damp. (WOOD DEBRIS)
- C 11.0 13.5 ft: Loose, brown SAND, little organics, moist. (SP)
- **D** 13.5 17.0 ft: Loose, dark brown SAND, little rounded gravel, moist to wet. (SP) (ALLUVIUM)

TIME	DEPTH TO W/L (FT)	NOTES
	17.0	

SPECIAL NOTES:

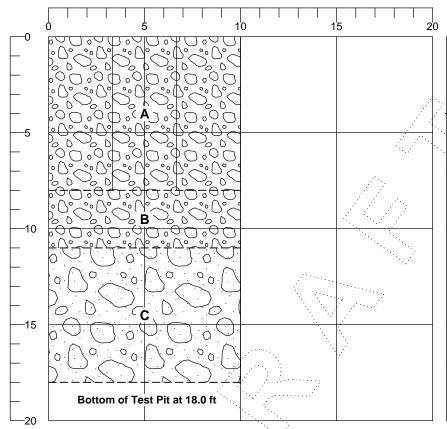
Groundwater encountered at approximately 17 ft bgs.

Fuel-like odor encountered at approximately 8' bgs, increasing in intensity with depth.

Oily product globules encountered at approximately 17' bgs.



NamePotlatch/Avery Landing/IdahoJob _073-93312-03LocationT45N, R5E Section 16ElevationDatum _NAVD 88Temp80 °F Weather SunnyDate _08-28-09Logged by _F. IshiharaEquipmentCAT 315CContractor _Able Clean-upOperator _C. Smith



	SAMPLES					
NO.	DEPTH (ft)	MOISTURE (%)				
1	2.5					
2	5.0					
3	7.5					
4	10.0					
5	12.5					
6	18.0					
	TEST RESULTS					

TEST RESULTS						
DEPTH	WD	DD	% PASSING #200			
			-			

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- A 0.0 8.0 ft: Compact, brown, angular GRAVEL, some sand, silt, cobbles, and boulders, dry. (GM) (FILL)
- **B** 8.0 11.0 ft: Compact, brown, angular GRAVEL and COBBLES, little boulders, dry. (GP) (FILL)
- C 11.0 18.0 ft: Compact, grey SAND and rounded GRAVEL, trace silt and cobbles, moist. (GP) (ALLUVIUM)

TIME	DEPTH TO W/L (FT)	NOTES
14:00	18.0	

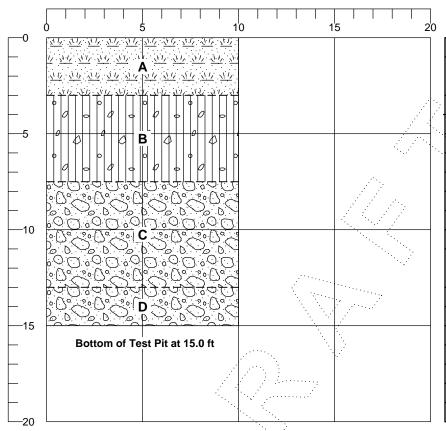
SPECIAL NOTES:

Groundwater encountered at approximately 18 ft bgs.

No impacted media observed.



NamePotlatch/Avery Landing/IdahoJob _073-93312-03LocationT45N, R5E Section 16ElevationDatum _NAVD 88Temp80 °F Weather SunnyDate _08-28-09Logged by _F. IshiharaEquipmentCAT 315CContractor _Able Clean-upOperator _C. Smith



SAMPLES					
NO.	DEPTH (ft)		M	OISTURE (%)	
1		2.5			
2	5.0				
3	7.5				
4	10.0				
5	12.5				
6		14.0			
7	15.0				
TEST RESULTS					
DEPT	Ή	WD		DD	% PASSING #200

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 3.0 ft: Compact, brown, silty SAND, some organics, little angular gravel, dry. (SM) (TOPSOIL)
- **B** 3.0 7.5 ft: Loose, brown to black ORGANICS and WOOD CHIPS, little angular gravel, damp. (WOOD DEBRIS)
- C 7.5 13.0 ft: Loose, dark brown, sandy, angular to rounded GRAVEL, trace silt and brick fragments, moist. (GP)
- **D** 13.0 15.0 ft: Loose, grey, sandy, rounded GRAVEL, trace silt, moist to wet. (GP) (ALLUVIUM)

TIME	DEPTH TO W/L (FT)	NOTES
15:00	14.0	

SPECIAL NOTES:

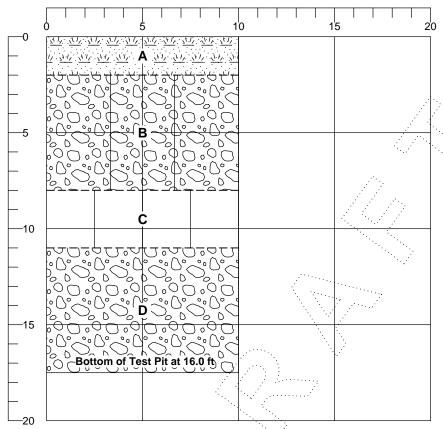
Groundwater encountered at approximately 14 ft bgs.

Impacted, stained soil observed from approximately 3' bgs to water table.

Strong petroleum-like odor below 13' bgs.

Petroleum-like globules of material floating on water table at approximately 14' bgs.





SAMPLES					
NO.	DEPTH (ft)			M	OISTURE (%)
1		1.0			
2		3.5			
3					
4					
5					
6					
7					
	TEST RESULTS				
DEPT	Н	WD	DE)	% PASSING #200

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

A 0.0 - 2.0 ft: Compact, brown, silty SAND, some organics, trace angular gravel, dry. (SM) (TOPSOIL)

B 2.0 - 8.0 ft: Compact, brown, silty, angular GRAVEL, little sand, damp. (GM) (FILL)*

*Black wedge of contaminated soil at approximately 4 feet.

C 8.0 - 11.0 ft: Loose, brown SILT, some sand, damp. (ML)

D 11.0 - 17.5 ft: Loose, grey, rounded GRAVEL, some sand increasing with depth, damp to wet. (GP) (ALLUVIUM)*

* Soil is oil coated, increasing with depth.

TIME	DEPTH TO W/L (FT)	NOTES
	17.5	

SPECIAL NOTES:

Groundwater encountered at approximately 15 ft bgs.

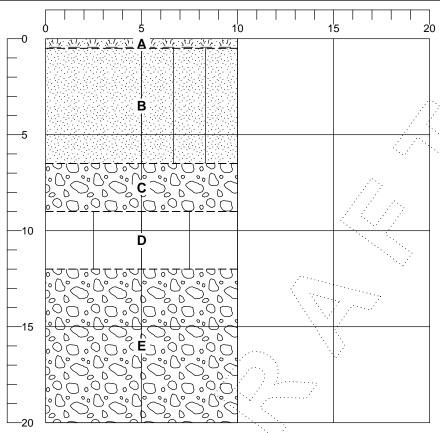
Strong petroleum-like odor on samples beginning at approximately 10 ft bgs.

Oil coated soil encountered at 14', increasing in amount of oily product with depth.

Approximately 3" diameter metal pipe encountered at approximately 2'.



NamePotlatch/Avery Landing/IdahoJob _073-93312-03LocationT45N, R5E Section 15ElevationDatum _NAVD 88Temp80 °F Weather SunnyDate _08-25-09Logged by _F. IshiharaEquipmentCAT 315CContractor Able Clean-upOperator _C. Smith



SAMPLES					
NO.	DEPTH (ft)		М	OISTURE (%)	
1	2.5				
2	5.0				
3	8.5				
4	10.0				
5	12.5				
6	15.0				
TEST RESULTS					
DEPT	DEPTH			DD	% PASSING

DEPTH WD DD % PASSING #200

Bottom of Test Pit at 20.0 ft

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 0.5 ft: Compact, brown, silty SAND, some angular gravel and organics, dry. (SM) (FILL)
- **B** 0.5 6.5 ft: Compact, grey, SAND, some angular gravel and silt, dry. (SP-SM) (FILL)
- **C** 6.5 9.0 ft: Compact, brown, angular GRAVEL, some sand, little silt, moist. (GP) (FILL)
- **D** 9.0 12.0 ft: Loose, brown SILT, moist. (ML)
- **E** 12.0 20.0 ft: Loose, grey, rounded GRAVEL, some sand, wet. (GP) (ALLUVIUM)*

*Soil coloring appeared to indicate petroleum staining.

TIME	W/L (FT)	NOTES
	19.0	

SPECIAL NOTES:

Groundwater encountered at approximately 19 ft bgs.

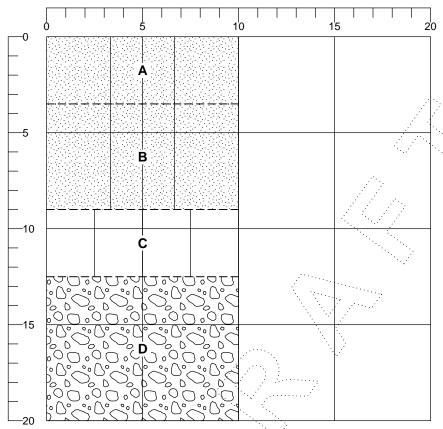
Wedge of black stained soil at 1.5-2'bgs.

Strong petroleum-like odor on samples below 8.5 ft bgs.

Approximately 12" diameter pipe encountered at approximately 6.5'.



NamePotlatch/Avery Landing/IdahoJob _073-93312-03Location _T45N, R5E Section 15ElevationDatum _NAVD 88Temp _80 _°F Weather _SunnyDate _08-25-09Logged by _F. IshiharaEquipment _CAT 315CContractor _Able Clean-upOperator _C. Smith



SAMPLES					
NO.	DEPTH (ft)		M	OISTURE (%)	
1		2.5			
2		5.0			
3		7.5			
4	10.5				
5	13.0				
6		14.5			
7	17.5				
	TEST RESULTS				
DEPT	Н	WD		DD	% PASSING #200

Bottom of Test Pit at 20.0 ft

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 3.5 ft: Compact, grey, silty SAND, some angular gravel, dry. (SM) (FILL)
- **B** 3.5 9.0 ft: Compact, dark brown to black, silty SAND, some angular gravel, dry. (SM) (FILL)*

*Soil appeared stained.

- C 9.0 12.5 ft: Loose, brown to black SILT, moist. (ML)
- **D** 12.5 20.0 ft: Loose, grey, rounded GRAVEL, some sand, wet. (GP) (ALLUVIUM)*

*Soil color appeared stained.

TIME	DEPTH TO W/L (FT)	NOTES
	18.0	

SPECIAL NOTES:

Groundwater encountered at approximately 18 ft bgs.

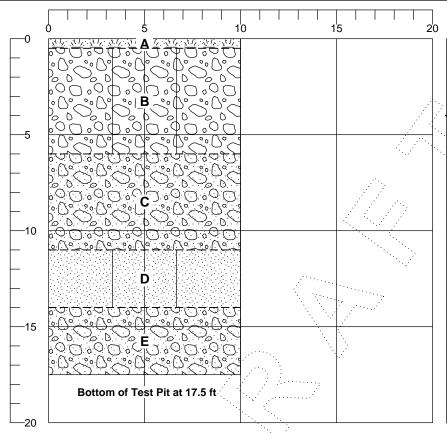
Soil appeared impacted from 3' bgs to bottom of test pit.

Strong petroleum-like odor on samples below 10.5 ft bgs.

Gravel appeared saturated with an oily product.



NamePotlatch/Avery Landing/IdahoJob _073-93312-03LocationT45N, R5E Section 16ElevationDatum _NAVD 88Temp80 °F Weather SunnyDate _08-26-09Logged by _F. IshiharaEquipmentCAT 315CContractor _Able Clean-upOperator _C. Smith



SAMPLES					
NO.	DEPTH (ft)			OISTURE (%)	
1		2.5			
2		5.0			
3		7.5			
4		10.0			
5		12.5			
6	13.0				
7	15.0				
8	-	TEST RE		SUL1	s
DEPT	ГН	WD		DD	% PASSING #200
			Ι -		

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 0.5 ft: Compact, brown, silty SAND, some angular gravel and organics, dry. (SM) (TOPSOIL)
- **B** 0.5 6.0 ft: Compact, grey, angular GRAVEL, some sand and silt, dry. (GP-GM) (FILL)
- **C** 6.0 11.0 ft: Compact, brown, angular to rounded GRAVEL, some sand, trace silt, moist. (GP)
- **D** 11.0 14.0 ft: Loose, brown to grey, silty SAND, little rounded gravel, moist. (SM)
- **E** 14.0 17.5 ft: Loose, grey to black, sandy, rounded GRAVEL, wet. (GP) (ALLUVUM)

DEPTH TO W/L (FT)	NOTES
16.0	
	W/L (FT)

SPECIAL NOTES:

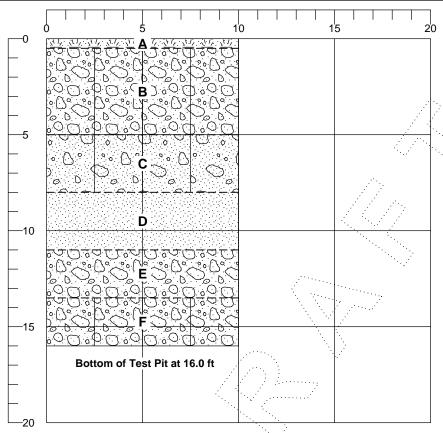
Groundwater encountered at approximately 16 ft bgs.

Oil-like odor beginning at approximately 7.5' bgs.

Clay pipe encountered at approximately 8 ft bgs.

Soil appeared impacted below 12' bgs.





	SAMPLES				
NO.	DEPTH (ft)			M	OISTURE (%)
1		2.5			
2		5.0			
3		7.5			
4		10.0			
5		12.5			
6		15.0			
7	17.5				
8	8 TÆST RE				s
DEPT	ТН	WD		DD	% PASSING #200
			Ι		

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 0.5 ft: Compact, brown, silty SAND, some gravel and organics, dry. (SM) (FILL)
- **B** 0.5 5.0 ft: Compact, grey, silty, angular to rounded GRAVEL, some sand, dry to damp. (GM) (FILL)
- **C** 5.0 8.0 ft: Compact, black, silty SAND, little angular gravel and wood debris, damp. (SM) (FILL)
- **D** 8.0 11.0 ft: Compact, brown SAND, trace silt, damp. (SP)
- **E** 11.0 13.5 ft: Loose, brown, angular GRAVEL, some sand, moist. (GP) (FILL)
- F 13.5 16.0 ft: Compact, black and brown, silty, rounded GRAVEL, some sand, wet. (GM) (ALLUVIUM)

TIME	DEPTH TO W/L (FT)	NOTES

SPECIAL NOTES:

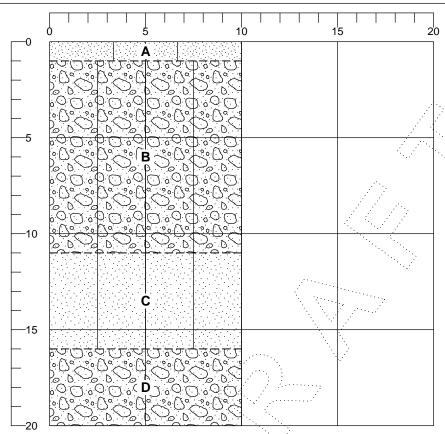
No groundwater encountered.

Approximately 3" diameter PVC pipe encountered at approximately 7'.

Tree trunks, railroad ties, and wood beams encountered at approximately 10 ft bgs.



NamePotlatch/Avery Landing/IdahoJob_073-93312-03LocationT45N, R5E Section 16ElevationDatum_NAVD 88Temp80 °F Weather SunnyDate_08-26-09Logged by F. IshiharaEquipmentCAT 315CContractor_Able Clean-upOperator_C. Smith



	SAMPLES				
NO.	DEPTH (ft)		M	OISTURE (%)	
1	2.5				
2		5.0			
3	7.5				
4	10.0				
5	12.5				
6	15.0				
7	17.5				
8 TEST RESULTS					
DEPT	H.	WD		DD	% PASSING #200

Bottom of Test Pit at 20.0 ft

LITHOLOGIC DESCRIPTIONS AND EXCAVATION NOTES

- **A** 0.0 1.0 ft: Compact, grey, silty SAND, some gravel, dry. (SM) (TOPSOIL)
- **B** 1.0 11.0 ft: Compact, brown, silty, angular GRAVEL, some sand and trace cobbles, dry. (GM) (FILL)
- C 11.0 16.0 ft: Loose, brown to black, sandy SILT, trace rounded gravel and cobbles, moist. (ML)
- **D** 16.0 20.0 ft: Loose, blue/black, sandy, rounded GRAVEL, trace silt and cobbles, moist. (GP) (ALLUVIUM)

TIME	DEPTH TO W/L (FT)	NOTES
	20.0	

SPECIAL NOTES:

Groundwater encountered at approximately 20 ft bgs.

Impacted material and stained soil beginning at 12' bgs.

Heavy oil staining at approximately 14'bgs.

Oily product appeared very viscous. Some free product visible on cobbles and boulders.

C

Analytical Data Summary Tables, 2007 EPA Removal Assessment

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Summary of START-3 Samples Avery Landing Site Avery, Idaho

EPA					
Sample ID	Location ID	Sample Date	Sample Time	Matrix	Analyses
07040101	EMW-01 SB 06	4/16/2007	15:00	Soil	VOCs
07040102	EMW-01 SB 02	4/16/2007	15:15	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040103	EMW-02 SB 05	4/17/2007	8:15	Soil	VOCs
07040104	EMW-02 SB 07	4/17/2007	8:25	Soil	SVOCs and PCBs
07040105	EMW-02 SB 05	4/17/2007	8:40	Soil	TAL Metals and NWTPH-Dx
07040106	EMW-03 SB 11	4/17/2007	11:45	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040107	EMW-03 SB 11	4/17/2007	11:45	Soil	VOCs
07040108	EMW-04 SB 03	4/17/2007	14:50	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040109	EMW-05 SB 09	4/18/2007	7:51	Soil	VOCs
07040110	EMW-05 SB 09	4/18/2007	8:00	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040111	RB-01 (Rinse Blank)	4/18/2007	9:00	Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040112	EMW-06 SB 07	4/18/2007	10:40	Soil	VOCs
07040113	EMW-06 SB 07	4/18/2007	10:50	Soil	TAL Metals
07040114	EMW-06 SB 09	4/18/2007	10:50	Soil	SVOCs, PCBs, and NWTPH-Dx
07040115	ESB-01 SB 07	4/18/2007	13:45	Soil	VOCs
07040116	ESB-01 SB 07	4/18/2007	13:45	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040117	ESB-02 SB 03	4/18/2007	14:45	Soil	SVOCs, PCBs, and TAL Metals
07040118	ESB-03 SB 09	4/18/2007	15:45	Soil	VOCs
07040119	ESB-03 SB 11	4/18/2007	15:55	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040120	ESB-04 SB 03	4/18/2007	16:50	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040121	ESB-04 SB 07	4/18/2007	16:50	Soil	VOCs
07040122	ESB-04 SB 07	4/18/2007	16:50	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040123	ESB-05 SB 09	4/19/2007	7:50	Soil	VOCs
07040124	ESB-05 SB 15	4/19/2007	8:08	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040125	ESB-05 SB 23	4/19/2007	9:15	Soil	SVOCs and PCBs
07040126	ESB-06 SB 09	4/19/2007	11:04	Soil	VOCs
07040127	ESB-06 SB 11	4/19/2007	11:11	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040128	ESB-07 SB 07	4/19/2007	12:07	Soil	VOCs
07040129	ESB-07 SB 13	4/19/2007	12:29	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040130	TB-01 (Trip Blank)	4/20/2007	15:00	Water	VOCs
07040131	HC-4	4/20/2007	9:50	Product	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040132	SW-01	4/20/2007	10:45	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040133	SW-02	4/20/2007	11:20	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040134	SW-03	4/20/2007	12:00	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040135	EMW-01	4/21/2007	9:15	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040136	EMW-02	4/21/2007	17:50	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040137	EMW-03	4/21/2007	12:00	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040138	EMW-04	4/21/2007	14:16	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040139	EMW-05	4/21/2007	15:47	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040140	EMW-06	4/21/2007	17:45	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040141	HC-1	4/21/2007	13:10	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040142	MW-5	4/21/2007	10:53	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040143	DW-01	4/21/2007	14:20	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx

Note: The two digits at the end of the soil sample Location ID indicates the depth, in feet below ground surface, where the sample was collected.

Key:

DW = domestic well EMW = EPA monitoring well

EPA = U.S. Environmental Protection Agency

ESB = EPA soil boring
HC = Hart Crowser
ID = identification
MW = monitoring well

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons, Diesel-Range Extended

PCBs = polychlorinated biphenyls

RB = rinse blank SB = soil boring

START = Superfund Technical Assessment and Response Team

SVOCs = semivolatile organic compounds

SW = surface water

TAL = Target Analyte List (Metals)

TB = trip blank

Table 4-2 Summary of Volatile Organic Compund Results in Soil Samples Avery Landing Site Avery, Idaho

Sample Number:	07040101	07040103	07040107	07040109	07040112	07040115	07040118	07040121	07040123	07040126	07040128	07040111		ARARs	
												RB-01		EPA	EPA
												(Rinsate	Idaho	Region 6	Region 6
Sample Location:	EMW-01 SB 06	EMW-02 SB 05	EMW-03 SB 11	EMW-05 SB 09	EMW-06 SB 07	ESB-01 SB 07	ESB-03 SB 09	ESB-04 SB 07	ESB-05 SB 09	ESB-06 SB 09	ESB-07 SB 07	Blank)	REM (1)	Residential (2)	Industrial (2)
VOCs (µg/kg)												(µg/L)			
1,1,1-Trichloroethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	2,000	1,385,378	1,385,378
1,1,2,2-Tetrachloroethane	3.3 UJ	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 UJ	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	0.92	384	970
1,1,2-Trichloroethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	14	844	2,078
1,1-Dichloroethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	3,479	845,964	2,332,719
1,1-Dichloroethene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	39	280,000	470,000
1,2-Dichloroethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	7.7	350	840
cis-1,2-Dichloroethene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	193	43,000	160,000
trans-1,2-Dichloroethene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	365	120,000	200,000
1,2-Dichloropropane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	8.9	351	847
cis-1,3-Dichloropropene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	2.4	700	1,700
trans-1,3-Dichloropropene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	2.4	700	1,700
2-Butanone	24 J	21	17	29	39 J	9.6 U	10 U	31 J	26 J	54 J	19 J	5.0 U	11,800	32,000,000	32,000,000
2-Hexanone	6 J	13 U	13 U	8.5 U	12 UJ	9.6 U	10 U	11 UJ	11 U	12 U	9 UJ	5.0 U	n.a.	n.a.	n.a.
4-Methyl-2-pentanone	11 U	13 U	13 U	8.5 U	12 UJ	9.6 U	10 U	11 UJ	11 U	12 U	9 UJ	5.0 U	n.a.	n.a.	n.a.
Acetone	85 J	130	93	160	190 J	16 J	6.1 J	230 J	110 J	150 J	78	2.0 J	17,405	14,150,596	60,479,805
Benzene	5.9 J	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	18	656	1,598
Bromodichloromethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	2.7	1,026	2,559
Bromoform	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	29	62,000	240,000
Bromomethane	3.3 UJ	3.9 UJ	3.9 UJ	2.6 UJ	3.5 UJ	2.9 UJ	3.1 UJ	3.4 UJ	3.4 UJ	3.6 UJ	2.7 UJ	1.0 U	50	3,905	14,561
Carbon disulfide	3.3 U	3.9 U	3.9 U	3.1	2.3 J	2.9 U	3.1 U	2.0 J	2.1 J	3.6 U	2.7 UJ	1.0 U	5,971	721,254	721,254
Carbon tetrachloride	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	11	240	582
Chlorobenzene	3.3 U	3.9 U	3.9 U	2.6 U	13 J	2.9 U	3.1 U	13 J	31 J	3.6 U	2.7 UJ	1.0 U	618	273,175	503,436
Chloroethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	53	n.a.	n.a.
Chloroform	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	5.6	245	580
Chloromethane	3.3 U	3.9 U	3.9 UJ	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	23	1,261	2,982
Dibromochloromethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	n.a.	n.a.	n.a.
Dichlorodifluoromethane	3.3 UJ	3.9 UJ	3.9 UJ	2.6 UJ	3.5 UJ	2.9 UJ	3.1 UJ	3.4 UJ	3.4 UJ	3.6 UJ	2.7 UJ	1.0 U	2,957	94,077	339,733
Ethylbenzene	2.7 J	3.8 J	3.9 U	56	3.5 UJ	2.9 U	3.1 U	3.4 UJ	540 J	13 J	1.8 J	1.0 U	10,200	233,948	233,948
Methylene chloride	3.3 U	5.1 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	7.9 U	2.7 UJ	3.7	17	8,898	22,254
Styrene	2.8 J	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	1,830	1,733,844	1,733,844
Tetrachloroethene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	24 U	3.6 U	2.7 UJ	1.0 U	29	550	1,700
Toluene	17 J	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	4,885	521,170	521,170
Trichloroethene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	2.9	43	100
Trichlorofluoromethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	10,376	386,624	1,420,861
Vinyl chloride	3.3 U	3.9 U	3.9 UJ	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	10	43	863
m,p-Xylene	7.1 J	7.8 U	7.7 U	6.4	7.1 UJ	5.8 U	6.2 U	6.7 UJ	25 J	7.2 U	2 J	2.0 U	1,666	210,000 (3)	210,000 (3)
o-Xylene	4.0 J	3.5 J	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	15 J	7.8 J	4.1 J	1.0 U	1,666 (3)	210,000 (3)	210,000 (3)

Notes:

Italics indicates the compound was not detected.

Bold type indicates the compound exceeded the Idaho REM value.

Underline type indicates the compound exceeded the EPA Region 6 residential guideline.

Highlighted cell indicates the compound exceeded the EPA Region 6 industrial guideline. (1) Idaho Risk Evaluation Manual (DEQ 2004).

(2) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a). (3) Xylene standards are for total xylene.

Key:
ARAR = applicable or relevant and relevant requirement

J = estimated value

UJ = not detected (estimated reporting limit)

Table 4-3 Summary of Semivolatile Organic Compund Results in Soil Samples Avery Landing Site Avery, Idaho

Sample ID:	07040102	07040104	07040106	07040108	07040110	07040114	07040116	07040117		ARARs	
									Idaho REM	EPA	EPA
Sample Location:	EMW-01 SB 02	EMW-02 SB 07	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 09	ESB-01 SB 07	ESB-02 SB 03		Region 6 Residential (2)	Region 6 Industrial (2)
SVOCs (µg/kg)											
1,2,4-Trichlorobenzene	55 U	59 U	6.9 U	54 U	63 U	66 U	56 U	55 U	692	142,520	264,776
1,2-Dichlorobenzene	55 U	59 U	6.9 U	54 U	63 U	66 U	56 U	55 U	5,253	278,923	372,612
1,3-Dichlorobenzene	55 U	59 U	6.9 U	54 U	63 U	66 U	56 U	55 U	229	68,534	144,219
1,4-Dichlorobenzene 1-Methylnaphthalene	55 U 33 U	59 U 400	6.9 U 4.1 U	54 U 33 U	63 U 16.000	66 U 30.000	56 U 33 U	55 U 130	76 n.a.	3,197 n.a.	8,067 n.a.
2,4,5-Trichlorophenol	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 UJ	n.a.	n.a.	n.a.
2,4,6-Trichlorophenol	160 U	180 U	21 U	160 UJ	190 U	200 U	170 U	170 UJ	n.a.	n.a.	n.a.
2,4-Dichlorophenol	110 U 110 U	120 U 120 U	14 U 14 U	110 U	130 U 130 U	130 U 130 U	110 U 110 U	110 UJ 110 UJ	98	183,309	2,052,021
2,4-Dimethylphenol 2,4-Dinitrophenol	1.100 UJ	1,200 UJ	14 U	1.100 U.I	1,300 UJ	130 U	1,100 UJ	110 UJ	n.a. n.a.	n.a. n.a.	n.a. n.a.
2,4-Dinitrotoluene	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 U	n.a.	n.a.	n.a.
2,6-Dinitrotoluene	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 U	n.a.	n.a.	n.a.
2-Chloronaphthalene 2-Chlorophenol	22 U 110 U	24 U 120 U	2.7 U 14 U	22 U 110 U	25 U 130 U	26 U 130 U	22 U 110 U	22 U 110 UJ	n.a. 365	n.a. 63,511	n.a. 262,495
2-Methylnaphthalene	22 U	210	2.7 U	36	23,000	44,000	22 J	210	3,310	n.a.	n.a.
2-Methylphenol	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 UJ	n.a.	n.a.	n.a.
2-Nitroaniline	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 U 110 UJ	n.a.	n.a.	n.a.
2-Nitrophenol 3 & 4 Methylphenol	110 U 220 U	120 U 240 U	14 U 27 U	110 U 220 U	130 U 250 U	130 U 260 U	110 U 220 U	220 UJ	n.a. n.a.	n.a.	n.a. n.a.
3,3'-Dichlorobenzidine	220 UJ	240 U	27 U	R	250 U	260 U	220 U	220 U	n.a.	n.a.	n.a.
3-Nitroaniline	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 U	n.a.	n.a.	n.a.
4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether	1,100 U	1,200 U 120 U	140 U 14 U	R 110 U	1,300 U 130 U	1,300 U 130 U	1,100 U	1,100 UJ 110 U	n.a.	n.a.	n.a. n.a.
4-Chloro-3-methylphenol	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 UJ	n.a.	n.a.	n.a.
4-Chloroaniline	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 U	126	244,412	2,736,028
4-Chlorophenyl phenyl ether	110 U 110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 U 110 U	n.a.	n.a.	n.a.
4-Nitroaniline 4-Nitrophenol	1,100 U	120 U 1,200 U	14 U 140 U	110 U 1,100 U	130 U 1,300 U	130 U 1,300 U	110 U 1,100 U	1100 UJ	3.0 n.a.	n.a.	n.a. n.a.
Acenaphthene	22 U	160	6.3	22 U	1,500	3,200	22 U	22 U	52,264	3,683,396	32,502,818
Acenaphthylene	22 U	24 U	2.7 U	5.7 J	25 U	26 U	22 U	22 U	78,017	n.a.	n.a.
Anthracene Benzo[a]anthracene	14 J 27 UJ	91 120	2.7 U 3.4 U	7.1 J 38 J	700 210	250 53	22 U 28 U	6.5 J 29	1,040,119 422	21,899,672 150	2 300
Benzo[a]pyrene	33 UJ	85	4.1 U	58	110	39 U	33 U	43	42	15	230
Benzo[b]fluoranthene	22 UJ 27 UJ	52 57	2.7 U	59 59	110 57	26 U 33 U	22 U 28 U	52 57	422	150	2,300
Benzo[g,h,i]perylene Benzo[k]fluoranthene	27 UJ 27 UJ	30 U	3.4 U 3.4 U	27 J	31 U	33 U	28 U 28 U	5/ 11 J	1,177,982 4,218	n.a. 1,500	n.a. 23,000
Benzoic acid	2,700 U	3,000 U	340 U	R	3,100 U	3,300 U	2,800 U	2,800 UJ	77,150	100,000,000	100,000,000
Benzyl alcohol	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 UJ	n.a.	n.a.	n.a.
Bis(2-chloroethoxy)methane Bis(2-chloroethyl)ether	110 U 110 U	120 U 120 U	14 U 14 U	110 U 110 U	77 J 130 U	130 U 130 U	110 U 110 U	110 U 110 U	n.a. 0	n.a. 211	n.a. 616
Bis(2-chloroisopropyl) ether	160 U	180 U	21 U	160 U	190 U	200 U	170 U	170 U	n.a.	n.a.	n.a.
Bis(2-ethylhexyl) phthalate	1,600 UJ	1,800 U	44 J	1,600 U	1,900 U	2,000 U	1,700 U	1,700 U	11,836	35,000	140,000
Butyl benzyl phthalate Carbazole	38 UJ 160 U	120 U 180 U	14 U 21 U	110 U 160 U	130 U 190 U	130 U 200 U	110 U 170 U	110 U 170 U	511,168 n.a.	240,477 n.a.	240,477 n.a.
Chrysene	27 UJ	180	3.4 U	48	360	120	28 U	37	33,366	14,762	234,414
Dibenz[a,h]anthracene	44 UJ	47 U	5.5 U	36 J	50 U	53 U	45 U	<u>40</u> J	42	15	230
Dibenzofuran Diethyl phthalate	110 U 110 U	120 U 120 U	14 U 14 U	110 U 110 U	130 U 130 U	130 U 130 U	110 U 110 U	38 J 110 U	6,099 27.531	145,284 49,000,000	1,737,888
Dimethyl phthalate	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 U	27,331	100,000,000	100,000,000
Di-n-butyl phthalate	220 U	69 UJ	9.8 U	74 J	250 U	260 U	220 U	58 U	30,989	n.a.	n.a.
Di-n-octyl phthalate Fluoranthene	220 UJ 26	240 U 65	27 U 2.7 U	220 U 61 J	250 U 460	260 U 99	220 U 22 U	220 U 33	1,828,814 363,512	n.a. 2,293,610	n.a. 24,444,837
Fluorene	26 22 U	180	9.7	22 U	2.800	4.900	22 U	22 U	54.836	2,293,610	26,221,983
Hexachlorobenzene	55 U	59 U	6.9 U	54 U	63 U	66 U	56 U	55 U	43	304	1,197
Hexachlorobutadiene	55 U	59 U	6.9 U	54 U 110 UJ	63 U 130 U	66 U	56 U	55 U	38	6,236	24,554
Hexachlorocyclopentadiene Hexachloroethane	110 U	120 U 120 U	14 U 14 U	110 UJ 110 U	130 U 130 U	130 U 130 U	110 U 110 U	110 U 110 U	12 138	365,487 34,741	4,065,241 136.801
Indeno[1,2,3-cd]pyrene	44 UJ	51 J	5.5 U	75 J	50 U	53 U	45 U	55 J	422	150	7,800
Isophorone	110 U	120 U	14 U	110 U 19 J	130 U 3.600	130 U 4,700	110 U	110 U	n.a.	n.a.	n.a.
Naphthalene Nitrobenzene	22 U 110 U	81 120 U	2.7 U 14 U	19 J 110 U	3,600 130 U	4,700 130 U	22 U 110 U	100 110 U	1,144 n.a.	124,798 n.a.	208,984 n.a.
N-Nitrosodi-n-propylamine	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 U	n.a.	n.a.	n.a.
N-Nitrosodiphenylamine	55 U	59 U	6.9 U	54 U	63 U	66 U	56 U	55 U	0.002	99,261	390,861
Pentachlorophenol Phenanthrene	110 U 22 U	120 U 420	14 U 2.7 U	110 U 43	130 U 5,800	130 U 3,800	110 U 22 U	110 UJ 89	9.1 79,042	2,979 n.a.	9,998 n.a.
Phenol	110 U	120 U	14 U	110 U	130 U	130 U	110 U	110 UJ	7,358	18,331,473	100,000,000
Pyrene	44	370	2.7 U	65	840	240	22 U	43	359,215	2,308,756	31,979,385
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Summary of Semivolatile Organic Compund Results in Soil Samples Avery, Idaho mple ID: 07040119 07040120 07040122 07040124 07040125 07040127 07040129 07040111 ARAR Idaho EPA EPA REM Region 6 Region 6 RB-01 Industrial (2) ESB-03 SB 11 ESB-04 SB 03 ESB-04 SB 07 ESB-05 SB 15 ESB-05 SB 23 ESB-06 SB 11 ESB-07 SB 13 (Rinsate Bla identia esidential SVOCs (µg/kg) 0.22 U 1.2-Dichlorobenzene 65 U.I 63 L 61 U.I 550 U 56 U 5.4 U 54 U 144,219 63 U 61 UJ 68,534 1,3-Dichlorobenzene 65 UJ 0.22 U 229 1,4-Dichlorobenzene 65 UJ 550 U 63 U 56 U 5.4 U 61 UJ 54 L 0.22 U 3,197 8,067 1-Methylnaphthalene 10,000 1,000 12,000 2,200 0.012 J n.a 120 U. 2,4,5-Trichlorophenol 110 2,4,6-Trichlorophenol 180 UJ 120 UJ 0.33 U 0.22 U 2,4-Dichlorophenol 2,4-Dimethylphenol 130 UJ 120 UJ 110 U 1.1 U n.a n.a. n.a. 1,300 UJ 130 U 1,200 UJ 120 UJ 2.8 U 2,4-Dinitrophenol 1,300 UJ 1,100 UJ 110 UJ R 110 U n.a n.a. n.a. 1,100 U 2,4-Dinitrotoluene 130 U. 110 U n.a n.a. n.a. 120 UJ 24 UJ 0.22 U 0.033 U 2,6-Dinitrotoluene 130 UJ 1,100 U 130 U 110 U 11 U 110 U 2-Chloronaphthalen n.a n.a n.a. 2-Chlorophenol 130 UJ 20 UJ 63 511 262 495 15,000 1,400 18,000 2,900 110 9,800 2,900 0.016 J 2-Methylnaphthalen n.a 2-Methylphenol 130 UJ R 130 U 110 U 11 U 120 UJ 0.22 U n.a. n.a. n.a. 130 U. 1.100 U 130 L 120 U.I 110 0.22 U 130 UJ 130 U 250 U 110 U 11 U 120 UJ 0.22 U 2-Nitrophenol n.a. n.a. n.a. 22 U 22 U 11 U 3 & 4 Methylphenol 260 UJ 220 U 240 UJ 0.44 U 250 U 130 U 110 U 110 U 0.22 U 3-Nitroaniline 130 UJ 1,100 U 120 UJ n.a n.a. n.a 4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether 1,200 UJ 120 UJ 1100 U R 110 110 U n.a n.a. n.a. 130 UJ 130 UJ 130 U 110 U 11 U 11 U 120 UJ 120 UJ 0.22 U 0.22 U 4-Chloro-3-methylphenol R 1,100 4-Chloroaniline 4-Chlorophenyl phenyl ether 130 U. 1.100 U 130 U 110 U 120 U. 110 U n.a. 130 U. 1,100 U 130 L 110 U 5.4 J 120 UJ 110 U 0.33 U 3.0 4-Nitrophenol 1,300 U 1,300 U 1,100 U 110 U 1,200 UJ 1.1 U n.a. 52,264 n.a. 3,683,396 n.a. 32,502,818 0.055 L 26 U.I 900 620 0.044 U 26 UJ Acenaphthylene 220 U 480 25 U 530 2.2 U 24 UJ 510 J 78,017 n.a. 21,899,672 n.a. 180 J 0.022 U 1,040,119 100,000,000 Benzo[a]anthracen Benzo[a]pyrene Benzo[b]fluoranthen 490 0.044 U 0.033 U 422 1,177,982 150 2.300 85 J 43 J Benzo[g,h,i]perylene n.a. n.a. Benzo[k]fluoranthen 32 UJ 280 U 31 U 28 U 10 J 9.8 J 0.033 U 4.218 1.500 23,000 1.1 U 0.015 J 77,150 100,000,000 100,000,000 Benzoic acid Benzyl alcohol n.a. 130 UJ 130 UJ 1,100 U 1,100 U 130 U 130 U 110 U 11 U 120 UJ 120 UJ 110 t 0.22 U Bis(2-chloroethoxy)methane Bis(2-chloroethyl)ether 211 616 Bis(2-chloroisopropyl) ether Bis(2-ethylhexyl) phthalate 190 UJ 1.700 U 190 U 170 U 16 U 180 UJ 160 L 0.22 U 700 I Butyl benzyl phthalate 130 UJ 1,100 U 130 U 110 U 11 U 120 UJ 110 U 0.33 U 511,168 240,477 240,477 190 UJ 190 L 16 U 1.7 J 180 UJ 0.22 U 0.022 U n.a. 33,366 1,400 180 J 234,414 14,762 Chrysene 120 Dibenz[a,h]anthracene 52 U. 440 L 50 L 44 L 4 3 L 49 U.I 0.033 1 Dibenzofuran 0.22 U Diethyl phthalate 130 UJ 1,100 U 130 U 110 U 120 UJ 110 U 0.06 J 49,000,000 100,000,000 130 U 250 U 120 UJ 240 UJ 270,813 Dimethyl phthalate 130 UJ 1,100 U 110 U 11 U 110 U 0.029 J 100,000,000 Di-n-butyl phthalate 260 UJ 2,200 U Di-n-octyl phthalate 260 U. 2,200 U 1,400 250 L 220 U 22 U 240 UJ 220 U 0.22 U 0.028 U 1.828.814 Fluoranthene Fluorene .300 J 1.000 2.900 600 1.400 J 1.700 0.0076 J 54.836 2.644.486 26,221,983 1,197 65 U. 550 L 63 L 56 L 61 U. 54 Hexachlorobutadiene 65 UJ 550 U 63 L 56 U 5.4 U 61 UJ 54 L 0.33 L 38 6,236 24,554 130 U. 1,100 U 130 I 11 L 34,741 Hexachloroethar 1,100 U 130 U 110 U 120 UJ 110 U 130 U. 136,801 440 U 1,100 U 240 44 U 110 U 410 43 U 110 U 1,000 4.3 U 11 U Indeno[1,2,3-cd]pyrene 52 UJ 130 UJ 50 L 43 J 0.033 L 422 150 7 800 120 U. 2,600 J Isophorone n.a. 1,144 6,000 J 3,100 0.0079 J 124,798 Naphthalene 208,984 1,100 U 110 U 11 L 110 I 1,100 U 130 U 110 U N-Nitrosodi-n-propylamine 130 UJ 11 U 120 UJ 110 U 0.22 U n.a. n.a. n.a. N-Nitrosodiphenylamine Pentachlorophenol 65 UJ 550 U 63 U 56 U 5.4 U 61 UJ 54 L 99.261 390.861 0.39 U 9.1 9,998 3,300 2,500 0.0093 J Phenanthrene 3,600 J 4,400 960 4,600 J 130 U 18,331,473 100,000,000 130 UJ

Table 4-3 (Continued)

tes: Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the EPA Human Health Medium-Specific Screening Level for Residential Properties Highlighted type indicates that the compound exceeds the EPA Human Health Medium-Specific Screening Level for Industial Properties (1) Idaho Risk Evaluation Manual (DEO 2004)

(2) EPA Region 6 Human Health Medium-Specific Screening Levels (EPA 2007a).

Key:

AR =applicable or relevant and appropriate requirement

EPA =Environmental Protection Agency

ID = identification
J = estimated value

μg/kg = microgram per kilogram
μg/L = microgram per liter
n.a. = not available
R = rejected value
REM = Risk Evaluation Manual

SVOC = semivolatile organic compound

Summary of PCB and NWTPH-Dx Results in Soil Samples Avery Landing Site Avery, Idaho

Sample ID:	07040102	07040104	07040106	07040108	07040110	07040114	07040116	07040117		ARARs	
									Idaho	EPA	EPA
									REM	Region 6	Region 6
Sample Location:	EMW-01 SB 02	EMW-02 SB 07	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 09	ESB-01 SB 07	ESB-02 SB 03	Residential (1)	Residential (2)	Industrial (2)
PCBs (µg/kg)											
Aroclor-1016	11 U	12 U	13 U	10 U	13 U	13 U	11 U	11 U	2,334	3,933	23,606
Aroclor-1221	11 U	12 U	13 U	10 U	13 U	13 U	11 U	11 U	2.9	222	826
Aroclor-1232	11 U	12 U	13 U	10 U	13 U	13 U	11 U	11 U	n.a.	n.a.	n.a.
Aroclor-1242	11 U	12 U	13 U	10 U	13 U	13 U	11 U	11 U	3.2	222	826
Aroclor-1248	11 U	12 U	13 U	10 U	13 U	13 U	11 U	11 U	137	222	826
Aroclor-1254	11 U	12 U	13 U	10 U	13 U	13 U	11 U	11 U	740	222	826
Aroclor-1260	9.8 J	12 U	130	19	20 J	9.2 J	11 U	4.4 J	147	222	826
NWTPH-Dx (mg/kg)											
Sample ID:	07040102	07040105	07040106	07040108	07040110	07040114	07040116	07040117		ARARs	
									Idaho	EPA	EPA
									REM	Region 6	Region 6
Sample Location:	EMW-01 SB 02	EMW-02 SB 05	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 09	ESB-01 SB 07	ESB-02 SB 03	Residential (1)	Residential (2)	Industrial (2)
Diesel-Range Organics	1,500	7,200	40	160	12,000	6,900	650	Not Analyzed	n.a.	n.a.	n.a.
Oil-Range Organics	12,000	5,200	140 U	890	2,000	3,600	2,500	Not Analyzed	n.a.	n.a.	n.a.

Key is on last page.

Table 4-4 (continued)

Summary of PCB and NWTPH-Dx Results in Soil Samples Avery Landing Site Avery, Idaho

Sample ID:	07040119	07040120	07040122	07040124	07040125	07040127	07040129	07040111		ARARs	
Sample Location:	ESB-03 SB 11	ESB-04 SB 03	ESB-04 SB 07	ESB-05 SB 15	ESB-05 SB 23	ESB-06 SB 11	ESB-07 SB 13	RB-01 (Rinsate Blank)	Idaho REM Residential ⁽¹⁾	EPA Region 6 Residential ⁽²⁾	EPA Region 6 Industrial (2)
PCBs (µg/kg)								(µg/L)	II.		
Aroclor-1016	13 U	10 U	13 U	11 U	10 U	12 U	11 U	0.055 UJ	2,334	3,933	23,606
Aroclor-1221	13 U	10 U	13 U	11 U	10 U	12 U	11 U	0.055 UJ	2.9	222	826
Aroclor-1232	13 U	10 U	13 U	11 U	10 U	12 U	11 U	0.055 UJ	n.a.	n.a.	n.a.
Aroclor-1242	13 U	10 U	13 U	11 U	10 U	12 U	11 U	0.055 UJ	3.2	222	826
Aroclor-1248	13 U	10 U	13 U	11 U	10 U	12 U	11 U	0.055 UJ	137	222	826
Aroclor-1254	13 U	10 U	13 U	11 U	10 U	12 U	11 U	0.055 UJ	740	222	826
Aroclor-1260	13 U	22	13 U	11 U	10 U	6.8 J	6.5 J	0.055 UJ	147	222	826
NWTPH-Dx (mg/kg)								(µg/L)			
Sample ID:	07040119	07040120	07040122	07040124	07040125	07040127	07040129	07040111		ARARs	
Sample Location:	ESB-03 SB 11	ESB-04 SB 03	ESB-04 SB 07	ESB-05 SB 15	ESB-05 SB 23	ESB-06 SB 11	ESB-07 SB 13	RB-01	Idaho REM Residential (1)	EPA Region 6 Residential (2)	EPA Region 6 Industrial (2)
Diesel-Range Organics	17,000	3,700	13,000	3,100	Not Analyzed	7,800	6,600	48 U	n.a.	n.a.	n.a.
Oil-Range Organics	6,700	3,300	7,000	1,500	Not Analyzed	3,100	1,900	190 U	n.a.	n.a.	n.a.

Notes:

Italics indicate Bold type indicates a detected compound.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the EPA Human Health Medium-Specific Screening Level for Residential Properties Highlighted type indicates that the compound exceeds the EPA Human Health Medium-Specific Screening Level for Industrial Properties

(1) Idaho Risk Evaluation Manual (DEQ 2004).

(2) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).

Key:

ARAR = applicable or relavant and appropriate requirement

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ \mu g/kg & = microgram \ per \ kilogram \\ \mu g/L & = microgram \ per \ liter \\ mg/kg & = milligrams \ per \ kilogram \end{array}$

NWTPH-Dx = Northwest Total Petroleum Hydrocarbon, Diesel Range Extended

PCBs = polychlorinated biphenyls

Summary of TAL Metal Results in Soil Samples Avery Landing Site Avery, Idaho

Sample ID:	07040102	07040105	07040106	07040108	07040110	07040113	07040116	07040117		ARARs	
Sample Location:	EMW-01 SB 02	EMW-02 SB 05	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 07	ESB-01 SB 07	ESB-02 SB 03	Idaho REM Residential (1)	EPA Region 6 Residential (2)	EPA Region 6 Industrial (3)
TAL Metals (mg/kg)											
Aluminum	11,200	19,500	14,900	11,200	13,500	15,800	14,100	12,100	n.a.	76,188	100,000
Antimony	0.2 UJ	0.074 J	0.1 J	1.3 J	0.21 J	0.12 J	0.17 J	1.1 J	4.8	31	450
Arsenic (4)	17.3 J	8.6 J	7.3 J	<u>12 J</u>	<u>5.7 J</u>	7.5 J	15.7 J	16.9 J	0.39	0.39	1.8
Barium	63.2	113	92.8	193	76.3	96	125	174	896	16,000	100,000
Beryllium	0.4 J	0.67 J	0.47 J	0.62 J	0.57 J	0.54 J	0.46	0.46 J	1.6	150	2,200
Cadmium	0.47 J	0.52 J	0.45 J	0.81 J	0.39 J	0.43 J	0.53 J	0.78 J	1.4	39	560
Calcium	862 J	2,720 J	1,480 J	6,390 J	2,310 J	1,910 J	1,620 J	4,370 J	n.a.	n.a.	n.a.
Chromium	18.8	18.4	11.9	15.1	13.2	12.8	12.1	12.3	2,135 (4)	210	500
Cobalt	8.8	8.4	6.2	6.5	6.9	8.5	7.1	19.2	n.a.	n.a.	n.a.
Copper	23.7	21.5	20.8	101	25.1	20.7	20.5	71.6	921	2,900	42,000
Iron	24,600	20,000	15,100	19,700	18,000	16,900	18,900	19,300	5.8	54,750	100,000
Lead	11	9.5	9.3	145	6.1	8.3	17.3	159	50	400	800
Magnesium	3,420 J	7,760 J	5,830 J	8,060 J	6,190 J	6,570 J	7,460 J	6,590 J	n.a.	n.a.	n.a.
Manganese	403 J	260 J	188 J	354 J	271 J	319 J	200 J	288 J	223	3,200	47,000
Mercury	0.0199 J	0.0124 J	0.0114 J	0.0553 J	0.0119 J	0.0105 J	0.0064 UJ	0.117	0.0051	23	340
Nickel	16.5	16.3	13.3	24.9	13.1	13.4	16.1	32.3	59	1,600	23,000
Potassium	1,600 J	2,940 J	1,980 J	3,250 J	2,460 J	1,720 J	3,500 J	2,740 J	n.a.	n.a.	n.a.
Selenium	0.13 J	0.28 J	0.36 J	0.22 J	0.38 J	0.39 J	0.23 J	0.21 J	2.0	390	5,700
Silver	0.14 J	0.15 J	0.11 J	0.16 J	0.1 J	0.11 J	0.12 J	0.17 J	0.19	390	5,700
Sodium	52.2 U	477	86.3 U	292	113 U	106 U	70.4 U	139 U	n.a.	n.a.	n.a.
Thallium	0.11 J	0.2 J	0.15 J	0.16 J	0.16 J	0.16 J	0.17 J	0.14 J	1.6	5.5	79
Vanadium	11.9	25.4	20.5	30.2	25.6	23	22.1	21.9	n.a.	n.a.	n.a.
Zinc	48.7	47.3	42.2	101	34.9	42.5	26	72.3	886	23,000	100,000

Key is at end of table.

Table 4-5 (continued)

Summary of TAL Metal Results in Soil Samples Avery Landing Site Avery, Idaho

Sample ID:	07040119	07040120	07040122	07040124	07040127	07040129	07040111		ARARs	
Sample Location:	ESB-03 SB 11	ESB-04 SB 03	ESB-04 SB 07	ESB-05 SB 15	ESB-06 SB 11	ESB-07 SB 13	RB-01 (Rinsate Blank)	Idaho REM Residential ⁽¹⁾	EPA Region 6 Residential ⁽²⁾	EPA Region 6 Industrial ⁽²⁾
TAL Metals (mg/k	:g)						(µg/L)			
Aluminum	13,100	10,200	13,000	11,100	12,700	7,760	32 U	n.a.	76,188	100,000
Antimony	0.099 J	0.49 J	0.063 J	0.059 J	0.07 J	0.066 J	0.626 U	4.8	31	450
Arsenic (4)	<u>4.2</u> <u>J</u>	<u>16.1</u> <u>J</u>	<u>5.4</u> <u>J</u>	<u>17</u> <u>J</u>	<u>6.1</u> <u>J</u>	<u>5.1</u> <u>J</u>	0.1 U	0.39	0.39	1.8
Barium	65.6	175	65.8	62.4	69.2	44.3	0.4 U	896	16,000	100,000
Beryllium	0.46 J	0.42 J	0.49	0.4 J	0.39 J	0.24 J	0.043 U	1.6	150	2,200
Cadmium	0.36 J	0.86	0.36 J	0.29 J	0.41 J	0.23 J	0.094 U	1.4	39	560
Calcium	1,930 J	3,110 J	1,530 J	1,740 J	1,290 J	1,580 J	116 U	n.a.	n.a.	n.a.
Chromium	10.9	12	11.2	10.8	10.7	7.7	0.569 U	2,135 (3)	210	500
Cobalt	5.5	6.3	7.1	7.9	6.9	5.6	0.028 U	n.a.	n.a.	n.a.
Copper	18.7	44.7	18.1	21.3	20.2	43	0.52 U	921	2,900	42,000
Iron	15,000	16,300	16,800	18,400	17,100	15,100	28.1 J	5.8	54,750	100,000
Lead	7.7	69.1	4.3	2.3	6.3	4.7	0.075 U	50	400	800
Magnesium	5,750 J	4,180 J	5,320 J	6,670 J	5,290 J	4,170 J	4.54 J	n.a.	n.a.	n.a.
Manganese	98.3 J	315 J	240 J	201 J	221 J	120 J	0.464 J	223	3,200	47,000
Mercury	0.00713 UJ	0.0312 J	0.00697 UJ	0.00625 UJ	0.00691 UJ	0.00609 UJ	0.018 UJ	0.0051	23	340
Nickel	12.9	17.8	12.9	15	12.1	8.7	0.11 U	59	1,600	23,000
Potassium	2,060 J	1,920 J	1,960 J	3,240 J	1,940 J	1,960 J	11 U	n.a.	n.a.	n.a.
Selenium	0.3 J	0.31 J	0.21 J	0.19 J	0.26 J	0.16 J	0.229 UJ	2.0	390	5,700
Silver	0.078 J	0.14 J	0.081 J	0.07 J	0.086 J	0.055 J	0.085 U	0.19	390	5,700
Sodium	89.5 U	203 U	101 U	89.7 U	89.5 U	108 U	203 J	n.a.	n.a.	n.a.
Thallium	0.13 J	0.12 J	0.16 J	0.26 J	0.15 J	0.094 J	0.044 UJ	1.6	5.5	79
Vanadium	23.5	29.9	22.3	19.5	21	28.3	0.116 J	n.a.	n.a.	n.a.
Zinc	34.4	111	29.5	18.4	33.4	20.7	1.87 J	886	23,000	100,000

Notes: Italics indicates the compound was not detected.

Bold type indicates the compound exceeds the Idaho REM guideline.

Underline type indicates the compound exceeds the EPA Region 6 residential guideline.

Highlighted type indicates the compound exceeds the EPA Region 6 industrial guideline.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).
- (3) The Idaho REM standard for chromium is for chromium (III).
- (4) The upper limit of background soil concentrations for arsenic in the nearby Coeur d'Alene and Spokane River basins is 22 mg/kg (URS Greiner 2001).

Key:

ARAR = applicable or relevant and appriopriate requirement

ID = identification

J = estimated value

 $\mu g/L$ = microgram per liter

mg/kg = milligrams per kilogram

n.a. = not available

REM = Risk Evaluation Manual

TAL = target analyte list

U = not detected (at the indicated reporting limit)

UJ = not detected (estimated reporting limit)

Table 4-6 Summary of Volatile Organic Compund Results in Groundwater and Domestic Well Samples Avery Landing Site

Sample Number:	07040135	07040136	07040137	07040138	07040139	07040140	07040141	07040142	07040143		ARARs	
										Groundwater Standard	Idaho	EPA Region 6
Sample Location:	EMW-01	EMW-02	EMW-03	EMW-04	EMW-05	EMW-06	HC-1R	MW-5	DW-01	(MCL) (1)	REM (2)	Tap Water (3)
VOCs (µg/L)												
1,1,1-Trichloroethane	1.0 U	200	200	836								
1,1,2,2-Tetrachloroethane	1.0 U	n.a.	0.3	0.3								
1,1,2-Trichloroethane	1.0 U	5.0	5.0	1.2								
1,1-Dichloroethane	1.0 U	n.a.	1,040	1,217								
1,1-Dichloroethene	1.0 U	7.0	7.0	340								
1,2-Dichloroethane	1.0 U	5.0	5.0	0.7								
cis-1,2-Dichloroethene	1.0 U	70	70	61								
trans-1,2-Dichloroethene	1.0 U	100	0.6	110								
1,2-Dichloropropane	1.0 U	5.0	5.0	1.0								
cis-1,3-Dichloropropene	1.0 U	n.a.	0.6	0.7								
trans-1,3-Dichloropropene	1.0 U	n.a.	n.a.	0.7								
2-Butanone	5.0 U	n.a.	6,260	7,100								
2-Hexanone	5.0 U	n.a.	n.a.	n.a.								
4-Methyl-2-pentanone	5.0 U	n.a.	n.a.	n.a.								
Acetone	5.0 U	5.0 U	2.8 J	3.2 J	5.0 U	5.0 U	1.6 J	5.0 U	5.0 U	n.a.	9,390	5,475
Benzene	1.0 UJ	1.0 U	5.0	5.0	1.2							
Bromodichloromethane	1.0 U	n.a.	0.9	1.1								
Bromoform	1.0 U	100 (4)	7.1	8.5								
Bromomethane	1.0 UJ	1.0 U	n.a.	15	8.7							
Carbon disulfide	1.0 U	n.a.	1,040	1,043								
Carbon tetrachloride	1.0 U	5.0	5.0	0.5								
Chlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.4	3.6	1.0 U	1.0 U	1.0 U	100 (5)	100	91
Chloroethane	1.0 U	n.a.	19	n.a.								
Chloroform	1.0 U	100 (4)	1.8	0.2								
Chloromethane	1.0 U	n.a.	4.3	2.1								
Dibromochloromethane	1.0 U	n.a.	n.a.	n.a.								
Dichlorodifluoromethane	1.0 U	n.a.	2,090	395								
Ethylbenzene	1.0 U	700	700	1,340								
Methylene chloride	1.0 U	n.a.	7.5	8.9								
Styrene	1.0 U	100	100	1,641								
Tetrachloroethene	1.0 U	5.0	5.0	0.1								
Toluene	1.0 U	1,000	1,000	2,281								
Trichloroethene	1.0 U	5.0	5.0	0.2								
Trichlorofluoromethane	1.0 U	n.a.	3,130	1,288								
Vinyl chloride	1.0 U	2.0	2.0	0.0								
m,p-Xylene	2.0 U	10,000 (6)	10,000 (6)	200 (6)								
o-Xylene	1.0 U	10,000 (6)	10,000 (6)	200 (6)								

Avery, Idaho

Note:

Italics indicates the compound was not detected.

Bold type indicates the compound exceeded the Idaho REM guideline.

Underline type indicates that the compound exceeds the groundwater standard (MCL).

Highlighted type indicates that the compound exceeds the EPA Region 6 tap water guideline.

(1) Groundwater Standards include the National Primary and Seconday Drinking Water Regulations, which include the federal MCLs (EPA 2003), and the state Primary and Secondary Constituent Standards for Groundwater (IDAPA 2006). Unless otherwise indicated, the state and federal standards are the same.

(2) Idaho Risk Evaluation Manual (DEQ 2004).

- (3) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).
- (4) The bromoform and chloroform standards are from the state regulations, only.
- (5) The chlorobenzene standard is from the federal regulations, only.
- (6) Xylene standards are for total xylene.

Key:

ARAR = applicable or relevant and appropriate requirement

J = estimated value

μg/L = microgram per liter REM = Risk Evaluation Manual

U = not detected (at the indicated reporting limit)

UJ = not detected (estimated reporting limit)

Summary of Semivolatile Organic Compund Results in Groundwater and Domestic Well Samples Avery Landing Site Avery, Idaho Sample ID 07040135 07040136 07040137 07040138 07040139 07040140 07040141 07040142 07040143 ARARS Groundwate EPA Region 6 (MCL) (1 DEM (2 SVOCs (µg/L) 1,2,4-Trichlorobenzene 1.9 L 0.2 L 0.037 1 0.048 1 0.2 1 n.a. 0.2 U 0.2 U 0.0081 J 1,3-Dichlorobenzene 0.2 L 0.21 U 0.2 U 0.051 J 1.9 U 0.2 L 0.21 U 0.2 L n.a. 9.4 14 0.2 U 20 0.21 U 0.031 U 1.9 U 210 0.2 U 0.03 U 0.21 U 0.031 U 0.2 U 0.03 U 1,4-Dichlorobenzene n.a. 1-Methylnaphthalene n.a. n.a. n.a. 0.2 L 0.31 0 0.31 U 0.3 U 0.3 L n.a. n.a. 2,4-Dichlorophenol 0.2 U R R 0.21 L R R R 0.21 L 0.2 L n.a. 31 110 10 U 1.0 L 2,4-Dinitrophenol 2.5 U R 2.6 U R R 2.6 U 0.21 U 2.5 U 0.2 U n.a. n.a. n.a. 1.9 U 2-Chloronaphthalen 0.03 U 0.029 L 0.03 L 0.03 L 0.28 L 0.03 U 0.031 U 0.03 U n.a. n.a. n.a. 0.2 U 0.1 U 2-Chlorophenol 2-Methylnaphthalen 0.2 U 0.0095 J 0.21 U 0.21 U n.a. 52 42 R 270 n.a. n.a. 2-Methylphenol 0.2 U R 0.2 0.21 U R R 0.21 U 0.2 U n.a. n.a. n.a. R Nitroaniline n.a. n.a. n.a. 2-Nitrophenol 0.2 U 0.21 U 0.21 U 0.2 L n.a. n.a. n.a 3 & 4 Methylphenol 0.4 U R 0.41 U R R 0.41 L 0.4 U n.a. n.a. 3,3'-Dichlorobenzidine 1.0 U 0.98 L 1.0 L 1.0 L 1.0 L 9.5 L 1.0 U 1.0 L 1.0 L n.a. n.a. n.a. 0.21 I 19 L 0.21 I 02 L 4,6-Dinitro-2-methylphenol 2 U 0.2 U R 0.2 U 0.21 U R 19 J 0.2 U 2.1 U 0.21 U 2.0 U n.a. n.a. n.a. 4-Bromophenyl phenyl ether 0.2 U 0.2 U 1.9 U 0.2 U n.a. n.a. 0.21 U 0.2 U 0.2 U 4-Chloro-3-methylphenol 0.21 n.a. 0.2 U 1.9 U 4-Chloroaniline 0.21 0 n.a. 146 4-Chlorophenyl phenyl ether 1.9 U n.a. 4-Nitroaniline n.a. n.a. 4-Nitrophenol R 1.0 U R R R 1.0 U 1.0 U n.a. n.a. 365 2.4 0.039 0.6 0.04 U 0.052 U 0.041 U 0.05 U 0.04 U 0.015 J 0.11 0.17 2.9 9.3 Acenaphthene n.a. 0.38 Acenaphthylene 0.04 L 0.041 0.041 0.04 0 n.a. 626 n.a Anthracene 0.02 L 0.012 J 0.019 0.021 0.0026 3,130 1.825 n.a. 0.03 L 0.031 0.03 0.03 0.03 0.02 Benzo[a]anthracene 0.03 n.a. Benzo[a]pyrene 0.02 U 0.20 0.02 L 0.021 0.02 U 0.85 0.02 U 0.021 U 0.02 L 0.20 0.20 0.0029 0.04 U 0.041 U 0.038 0.04 L 0.04 U 0.15 Benzo[b]fluoranthene n.a. Benzo[g,h,i]perylene 0.03 U 0.11 0.03 U 0.037 0.03 L 0.51 0.03 U 0.031 L 0.03 L n.a. 313 0.029 Benzo[k]fluoranthene 0.03 L 0.021 J 0.03 L 0.03 U 0.031 U 0.77 1.0 U 0.2 U 0.2 U 0.21 U 1.0 U 0.21 U 0.21 U 41,700 146,000 Benzoic acid 1.0 U n.a. 0.2 U 0.2 U 0.2 U Benzyl alcohol R R R R R n.a. n.a. n.a. 0.2 U 0.2 U Bis(2-chloroethoxy)methane n.a. n.a. n.a. 0.2 U Bis(2-chloroethyl)ether 0.2 U 0.028 J 0.21 U 1.9 L 0.2 U 0.21 U n.a. 0.05 0.060 0.2 U Bis(2-chloroisopropyl) ether n.a. 6.0 n.a. 6.0 n.a. 4.8 Bis(2-ethylhexyl) phthalate 16 120 85 390 210 Butyl benzyl phthalate 0.3 U 0.2 U 0.3 0.31 0.3 t 0.13 J 2.8 U 0.3 U 0.31 U 0.3 U 0.2 U n.a. 2,090 7.300 Carbazole n.a. n.a. n.a. Chrysene 0.02 U 0.51 0.02 1 0.067 0.02 U 0.02 L 0.021 U n.a. 0.03 U Dibenz[a,h]anthracen 0.031 0.03 U 0.031 U 0.03 U n.a. Dibenzofuran 0.2 U 0.2 L 0.2 U 0.02 J 0.2 L 1.9 L 0.2 U 0.21 L 0.2 U n.a. 42 8,340 12 Diethyl phthalate 0.014 J 19 L 0.018 J 29,000 0.2 U 0.2 0 0.21 0.2 U 1.9 L 0.2 U 0.21 U 0.2 U 104,000 370,000 Dimethyl phthalate n.a. 0.2 U 0.2 U 0.26 0.2 U 0.2 U 0.037 Di-n-butyl phthalat 191 0.2 U 0.0097 J 0.21 0.08 J 0.025 U 0.21 U 0.2 U 0.025 U 417 Di-n-octyl phthalat n.a. n.a. 1,460 0.025 U Fluoranthene n.a. 0.0068 J 0.2 U 0.14 0.2 U 0.031 U 0.03 U 0.2 U 417 1.0 0.4 0.2 U n.a. 1.0 243 0.042 1.9 U Hexachlorobenzene Hexachlorobutadien 0.3 U 0.29 U 0.3 U 0.31 U 0.3 L 2.8 U 0.3 U 0.31 U 0.3 U 1.0 0.86 1.0 U Hexachlorocyclopentadien 0.3 L Hexachloroethane 0.31 0 0.3 L n.a. 4.0 0.03 U 0.2 U 0.029 U 0.03 U 0.031 0 0.03 U 0.28 U 0.03 U 0.2 U 0.031 U 0.03 U 0.2 U 0.077 0.029 Indeno[1,2,3-cd]pyrene n.a. 0.2 U Isophorone n.a. n.a. n.a. Naphthalene 7.1 0.2 0.01 J 5.0 0.2 U 0.21 U 63 0.2 U 0.21 U 0.2 U n.a. 209 6.2 Vitrobenzene n.a. n.a. n.a. N-Nitrosodi-n-propylamine 0.2 U 0.2 U 0.2 U 0.21 U 0.2 U 1.9 U 0.2 U 0.21 U 0.2 U n.a. n.a. n.a. 0.2 U 0.35 U 0.2 U 0.21 U 0.2 U 12 0.2 U 0.21 U 0.2 U 0.35 U n.a. 1.0 N-Nitrosodiphenylamine 0.36 L 0.36 L 1.0 0.56 Pentachlorophenol 3.3 L 0.0046.1 40 0.021 J 0.078 0.026 J 0.041 L 0.04 L 313 n.a. 10,95 0.31 U 0.3 U 0.3 U R 0.31 U 3,130 Phenol R 0.03 U n.a. Pyrene 0.015 J 0.03 U 0.041 8.6 0.031 U 0.03 L 183

Table 4-7

compound was not detected Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the groundwater standard (MCL).
Highlighted type indicates that the compound exceeds the EPA Region 6 tap water guideline.

(1) Groundwater Standards include the National Primary and Secondary Drinking Water Regulations, which include the federal MCLs (EPA 2003), and the state Primary and Secondary Constituent Standards for Groundwater (IDAPA 2006). Unless otherwise indicated, the state and federal standards are the same.

(2) Idaho Risk Evaluation Manual (DEQ 2004). (3) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).

Key:

ARAR =applicable or relevant and appropriate requirement

=Environmental Protection Agency ID = identification

= estimated value microgram per liter μg/L = rejected value REM = Risk Evaluation Memo SVOC = semivolatile organic compound

= not detected (at the indicated reporting limit)

= not detected (estimated reporting limit) UJ

Table 4-8 Summary of PCB and NWTPH-Dx Results in Groundwater and Domestic Well Samples Avery Landing Site

Sample ID:	07040135	07040136	07040137	07040138	07040139	07040140	07040141	07040142	07040143		ARARs	
Sample Location:	EMW-01	EMW-02	EMW-03	EMW-04	EMW-05	EMW-06	HC-1R	MW-5	DW-01	Groundwater Standard (MCL) (1)	Idaho REM ⁽²⁾	EPA Region 6 Tap Water (3)
PCBs (µg/L)	•											
Aroclor-1016	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	0.73	0.96
Aroclor-1221	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	0.0279	0.0336
Aroclor-1232	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	n.a.	n.a.
Aroclor-1242	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	0.0279	0.0336
Aroclor-1248	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	0.0279	0.0336
Aroclor-1254	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	0.2090	0.0336
Aroclor-1260	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.028 J	0.051 UJ	0.05 U	0.05 U	0.5	0.0279	0.0336
NWTPH-Dx (μg/L)												
Sample ID:	07040135	07040136	07040137	07040138	07040139	07040140	07040141	07040142	07040143		ARARs	
Sample Location:	EMW-01	EMW-02	EMW-03	EMW-04	EMW-05	EMW-06	HC-1R	MW-5	DW-01	MCL (1)	Idaho REM ⁽²⁾	EPA Region 6 Tap Water (3)
Diesel-Range Organics	83	5,500	780	3,900	2,000	110,000	1,300	50 U	79	n.a.	n.a.	n.a.
Oil-Range Organics	210 U	3,800	1,000	4,100	780	45,000	720	260	190 U	n.a.	n.a.	n.a.

Avery, Idaho

Notes:

Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the groundwater standard (MCL).

Highlighted type indicates that the compound exceeds the EPA Region 6 tap water guideline.

(1) Groundwater Standards include the National Primary and Seconday Drinking Water Regulations, which include the federal MCLs (EPA 2003), and the state Primary and Secondary Constituent Standards for Groundwater (IDAPA 2006). Unless otherwise indicated, the state and federal standards are the same.

(2) Idaho Risk Evaluation Manual (DEQ 2004).

(3) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).

Key:

ARAR = applicable or relevant and appropriate requirement

ID = identification
J = estimated value

µg/L = microgram per liter
n.a. = not available

NWTPH-Dx = Northwest Total Petroleum Hydrocarbon, Diesel Range Extended

PCBs = polychlorinated biphenyls REM = Risk Evaluation Manual

Table 4-9 Summary of TAL Metal Results in Groundwater and Domestic Well Samples Avery Landing Site Avery, Idaho

Sample ID:	07040135	07040136	07040137	07040138	07040139	07040140	07040141	07040142	07040143		ARARs	
Sample Location:	EMW-01	EMW-02	EMW-03	EMW-04	EMW-05	EMW-06	HC-1R	MW-5	DW-01	Groundwater Standard (MCL) (1)	Idaho REM ⁽²⁾	EPA Region 6 Tap Water (3
TAL Metals (µg/L)	<u> </u>						,	,			<u> </u>
Aluminum	32 U	2,050	74.9	121	634	32,200	32 U	79.7	32 U	200 (4)	n.a.	36,500
Antimony	0.218 UJ	0.537 U	0.219 UJ	0.452 U	0.0949 UJ	1.87 U	0.465 U	0.222 UJ	0.0574 U	6.0	6.0	15
Arsenic	0.303 J	88.6	30.7	13.7	<u>51.4</u>	58.6	46.6	0.655 J	1.06	50 / 10 ⁽⁵⁾	10	0.045
Barium	12	61.1	84.4	113	72.1	305	109	9.3	21.1 J	2,000	2,000	7,300
Beryllium	0.043 U	0.106 J	0.043 U	0.043 U	0.043 U	1.84 J	0.043 U	0.043 U	0.043 U	4.0	4.0	73
Cadmium	0.094 U	0.142 J	0.094 U	0.094 U	0.094 U	1.07	0.094 U	0.094 U	0.094 U	5.0	5.0	18
Calcium	21,800	56,600	59,400	82,300	44,300	67,300	81,700	22,700	46,600	n.a.	n.a.	n.a.
Chromium	0.359 U	3.91	0.502 U	0.465 U	1.46	35.6	0.537 U	0.608 U	0.763 U	100	100	55,000 (6)
Cobalt	1.89	6.15	12.9	3.39	1.24	22.9	2.63	0.0826 J	0.0637 J	n.a.	n.a.	n.a.
Copper	0.52 U	8.43	0.52 U	0.689 J	2.35	132	0.52 U	0.746 J	1.41 J	1,300	1,300	1,400
Iron	82	<u>26,100</u>	30,800	<u>31,300</u>	23,000	80,500	50,600	183	141 J	300	3,130	25,550
Lead	0.075 U	2.17	0.105 J	0.615 J	0.583 J	<u>39.8</u>	0.075 U	0.178 J	0.075 UJ	15	15	15
Magnesium	6,370 J	8,280 J	7,660 J	14,000 J	7,760 J	26,400 J	9,900 J	6,460 J	13,200 J	n.a.	n.a.	n.a.
Manganese	<u>120</u>	3,300	<u>5,510</u>	3,430	<u>2,980</u>	<u>3,920</u>	<u>5,630</u>	0.946 J	2.87 J	50	250	1,700
Mercury	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	2.0	2.0	11
Nickel	1.31	6.05	5.8	3.51	2.53	37.8	3.55	0.902 J	1.5	n.a.	209	730
Potassium	1,040	2,950	3,150	4,160	2,070	8,130	2,680	808	1,510	n.a.	n.a.	n.a.
Selenium	0.11 UJ	0.289 UJ	0.123 UJ	0.11 UJ	0.268 UJ	1.18	0.272 UJ	0.115 UJ	0.11 UJ	50	50	180
Silver	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.532 J	0.085 U	0.085 U	0.085 U	100	52.1	180
Sodium	2,000 J	3,330 J	2,150 J	4,360 J	2,670 J	5,350 J	2,710 J	1,950 J	2,860	n.a.	n.a.	n.a.
Thallium	0.044 UJ	0.044 UJ	0.044 UJ	0.044 UJ	0.044 UJ	0.356 J	0.044 UJ	0.044 UJ	0.044 U	2.0	2.0	2.6
Vanadium	0.135 J	5.41	0.871 J	0.668 J	1.71 J	53.2	1.24 J	0.268 J	0.19 U	n.a.	n.a.	n.a.
Zinc	3.43 J	7.68 J	4.48 J	8.01 J	7.94 J	68.3 J	5.03 J	5.04 J	6.44 UJ	5,000	3130	11,000

Notes: Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the groundwater standard (MCL).

Highlighted type indicates that the compound exceeds the EPA Region 6 tap water guideline.

(1) Groundwater Standards include the National Primary and Seconday Drinking Water Regulations, which include the federal MCLs (EPA 2003), and the state Primary and Secondary Constituent Standards for Groundwater (IDAPA 2006).

Unless otherwise indicated, the standards are the same.

- (2) Idaho Risk Evaluation Manual (DEQ 2004).
- (3) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).
- (4) For aluminum, the federal regulation specifies a range of 50 to 200 μg/L, and the state of Idaho has set the standard at 200 μg/L.
- (5) For arsenic, the state standard is 50 μ g/L, and the federal standard is 10 μ g/L.
- (6) Region 6 Tap Water value is for chromium (III)

Key:

ARARs = applicable or relevant and appropriate requirements

ID = identification

= estimated value

μg/L = microgram per liter

n.a. = not available

TAL = target analyte list

U = not detected (at the indicated reporting limit)

UJ = not detected (estimated reporting limit)

Summary of Volatile Organic Compund Results in Surface Water Samples Avery Landing Site Avery, Idaho

Sample Number:	7040132	7040133	7040134	7040130	AR	ARs
-					Idaho	Federal
Sample Location:	SW-01	SW-02	SW-03	TB-01	REM (1)	AWQC (2)
VOCs (µg/L)						
1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	11
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U	0.2	2,400
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	0.6	9,400
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
1,1-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
1,2-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	0.4	20,000
cis-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	11,600
trans-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	11,600
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
cis-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
trans-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.
4-Methyl-2-pentanone	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.
Benzene	1.0 U	1.0 U	1.0 U	1.0 U	1.2	130
Bromodichloromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Bromoform	1.0 U	1.0 U	1.0 U	1.0 U	4.3	n.a.
Bromomethane	1.0 U	1.0 U	1.0 U	1.0 UJ	n.a.	n.a.
Carbon disulfide	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Carbon tetrachloride	1.0 U	1.0 U	1.0 U	1.0 U	0.3	9.8
Chlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	680	50
Chloroethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Chloroform	1.0 U	1.0 U	1.0 U	1.0 U	5.7	1,240
Chloromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Dibromochloromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Dichlorodifluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	11,000
Ethylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	3,100	7.3
Methylene chloride	1.0 U	1.0 U	1.0 U	1.0 U	4.7	2,200
Styrene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Tetrachloroethene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	840
Toluene	1.0 U	1.0 U	1.0 U	1.0 U	6,800	9.8
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	2.7	21,900
Trichlorofluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Vinyl chloride	1.0 U	1.0 U	1.0 U	1.0 U	2.0	11,600
m,p-Xylene	2.0 U	2.0 U	2.0 U	2.0 U	n.a.	13 (3)
o-Xylene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	13 (3)

Note:

Italics indicates the compound was not detected.

Bold type indicates the compound exceeded the Idaho REM guideline.

Underline type indicates the compound exceeded a federal guideline or standard.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) Ambient Water Quality Criteria (Buchman 1999).
- (3) Xylene standards are for total xylene.

Key:

ARAR = applicable or relevant and appropriate requirement

AWQC = Ambient Water Quality Criteria

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ \mu g/L & = microgram \ per \ liter \end{array}$

Table 4-11
Summary of Semivolatile Organic Compund Results in Surface Water Samples
Avery Landing Site
Avery, Idaho

Sample ID:	07040132	07040133	07040134	AR	ARs
				Idaho	Federal
Sample Location:	SW-01	SW-02	SW-03	REM (1)	AWQC (2)
SVOCs (μg/L)					
1,2,4-Trichlorobenzene	0.19 U	0.19 U	0.19 U	960	50
1,2-Dichlorobenzene	0.19 U	0.19 U	0.19 U	2,700	n.a.
1,3-Dichlorobenzene	0.19 U	0.19 U	0.19 U	400	n.a.
1,4-Dichlorobenzene	0.19 U	0.19 U	0.19 U	400	763
1-Methylnaphthalene	0.029 U	0.041	0.34	n.a.	n.a.
2,4,5-Trichlorophenol	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2,4,6-Trichlorophenol	0.29 U	0.29 U	0.29 U	n.a.	n.a.
2,4-Dichlorophenol	0.19 U	0.19 U	0.19 U	n.a.	365
2,4-Dimethylphenol	0.96 U	0.96 U	0.95 U	n.a.	n.a.
2,4-Dinitrophenol	2.4 U	2.4 U	2.4 U	n.a.	n.a.
2,4-Dinitrotoluene	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2,6-Dinitrotoluene	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2-Chloronaphthalene	0.029 U	0.029 U	0.029 U	n.a.	n.a.
2-Chlorophenol	0.19 U	0.19 U	0.19 U	n.a.	4,380
2-Methylnaphthalene	0.096 U	0.014 J	0.11	n.a.	n.a.
2-Methylphenol	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2-Nitroaniline	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2-Nitrophenol	0.19 U	0.19 U	0.19 U	n.a.	n.a.
3 & 4 Methylphenol	0.38 U	0.38 U	0.38 U	n.a.	n.a.
3,3'-Dichlorobenzidine	0.96 U	0.96 U	0.95 U	n.a.	n.a.
3-Nitroaniline	0.19 U	0.19 U	0.19 U	n.a.	n.a.
4,6-Dinitro-2-methylphenol	1.9 U	1.9 U	1.9 U	n.a.	n.a.
4-Bromophenyl phenyl ether	0.19 U	0.19 U	0.19 U	n.a.	n.a.
4-Chloro-3-methylphenol	0.19 U	0.19 U	0.19 U	n.a.	n.a.
4-Chloroaniline	0.19 U	0.19 U	0.19 U	n.a.	50
4-Chlorophenyl phenyl ether	0.19 U	0.19 U	0.19 U	n.a.	n.a.
4-Nitroaniline	0.29 U	0.29 U	0.29 U	n.a.	n.a.
4-Nitrophenol	0.96 U	0.96 U	0.95 U	n.a.	n.a.
Acenaphthene	0.048 U	0.025 J	0.084	n.a.	520
Acenaphthylene	0.038 U	0.038 U	0.038 U	n.a.	n.a.
Anthracene	0.019 U	0.0088 J	0.015 J	9,600	0.73
Benzo[a]anthracene	0.029 U	0.029 U	0.011 J	0.0028	n.a.
Benzo[a]pyrene	0.019 U	0.019 U	<u>0.027</u>	0.0028	0.014
Benzo[b]fluoranthene	0.038 U	0.038 U	0.023 J	0.0028	n.a.
Benzo[g,h,i]perylene	0.029 U	0.029 U	0.029 U	n.a.	n.a.
Benzo[k]fluoranthene	0.029 U	0.029 U	0.029 U	0.0028	n.a.
Benzoic acid	0.96 U	0.96 U	0.95 U	n.a.	42
Benzyl alcohol	0.19 U	0.19 U	0.013 J	n.a.	n.a.

Key is at end of table.

Table 4-11 (continued)

Summary of Semivolatile Organic Compund Results in Surface Water Samples Avery Landing Site Avery, Idaho

Sample ID:	07040132	07040133	07040134	AF	RARs
				Idaho	Federal
Sample Location:	SW-01	SW-02	SW-03	REM (1)	AWQC (2)
SVOCs (µg/L)					
Bis(2-chloroethoxy)methane	0.19 U	0.19 U	0.19 U	n.a.	n.a.
Bis(2-chloroethyl)ether	0.19 U	0.19 U	0.19 U	0.031	n.a.
Bis(2-chloroisopropyl) ether	0.19 U	0.19 U	0.19 U	n.a.	n.a.
Bis(2-ethylhexyl) phthalate	1.4 U	1.4 U	1.4 U	1.8	360
Butyl benzyl phthalate	0.29 U	0.29 U	0.29 U	n.a.	3.0
Carbazole	0.19 U	0.19 U	0.19 U	n.a.	n.a.
Chrysene	0.019 U	0.019 U	0.016 J	0.0028	0.027
Dibenz[a,h]anthracene	0.029 U	0.029 U	0.029 U	0.0028	n.a.
Dibenzofuran	0.19 U	0.19 U	0.19 U	n.a.	0.0037
Diethyl phthalate	0.19 U	0.011 J	0.19 U	23,000	3.0
Dimethyl phthalate	0.19 U	0.19 U	0.19 U	313,000	3.0
Di-n-butyl phthalate	0.19 U	0.19 U	0.19 U	2,700	3.0
Di-n-octyl phthalate	0.19 U	0.19 U	0.073 J	n.a.	3.0
Fluoranthene	0.024 U	0.0095 J	0.013 J	300	3,980
Fluorene	0.029 U	0.047	0.2	1,300	3.9
Hexachlorobenzene	0.19 U	0.19 U	0.19 U	0.00075	3.68
Hexachlorobutadiene	0.29 U	0.29 U	0.29 U	0.44	9.3
Hexachlorocyclopentadiene	0.96 U	0.96 U	0.95 U	240	5.2
Hexachloroethane	0.29 U	0.29 U	0.29 U	1.9	540
Indeno[1,2,3-cd]pyrene	0.029 U	0.029 U	0.029 U	0.0028	n.a.
Isophorone	0.19 U	0.19 U	0.19 U	n.a.	n.a.
Naphthalene	0.19 U	0.19 U	0.032 J	n.a.	620
Nitrobenzene	0.19 U	0.19 U	0.19 U	n.a.	n.a.
N-Nitrosodi-n-propylamine	0.19 U	0.19 U	0.19 U	n.a.	n.a.
N-Nitrosodiphenylamine	0.19 U	0.19 U	0.19 U	5.0	n.a.
Pentachlorophenol	0.33 U	0.34 U	0.33 U	0.27	15
Phenanthrene	0.038 U	0.12	0.21	n.a.	6.3 (proposed)
Phenol	0.29 U	0.29 U	0.29 U	n.a.	2,560
Pyrene	0.029 U	0.025 J	0.046	960	n.a.

Notes:

Italics indicates the compound was not detected.

Bold indicates the compound exceeded the Idaho REM.

Underlined text indicates the compound exceeded a federal standard.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) Ambient Water Quality Criteria (Buchman 1999).

Key:

ARAR = applicable or relevant and appropriate requirement

AWQC = Ambient Water Quality Criteria

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ \mu g/L & = microgram \ per \ liter \\ REM & = Risk \ Evaluation \ Manual \\ SVOC & = semivolatile \ organic \ compound \end{array}$

Summary of PCBs and NWTPH-Dx Results in Surface Water Samples Avery Landing Site Avery, Idaho

Sample ID:	07040132	07040133	07040134	AR	ARs
Sample Location:	SW-01	SW-02	SW-03	Idaho REM ⁽¹⁾	Federal AWQC (2)
PCBs (µg/L)					
Aroclor-1016	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1221	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1232	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1242	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1248	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1254	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1260	0.048 U	0.048 U	0.056 U	n.a.	n.a.
NWTPH-Dx (µg/L)					
Sample ID:	07040132	07040133	07040134	AR	ARs
Sample Location:	SW-01	SW-02	SW-03	Idaho REM ⁽¹⁾	Federal AWQC (2)
Diesel-Range Organics	48 U	320	2,300	n.a.	n.a.
Oil-Range Organics	190 U	190 U	1,200	n.a.	n.a.

Notes:

Italics indicates the compound was not detected.

Bold indicates the compound exceeded the Idaho REM.

Underlined text indicates the compound exceeded a federal standard.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) Ambient Water Quality Criteria (Buchman 1999).

Key:

ARAR = applicable or relevant and appropriate requirement

AWQC = Ambient Water Quality Criteria

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ \mu g/L & = microgram \ per \ liter \\ n.a. & = not \ available \end{array}$

NWTPH-Dx = Northwest Total Petroleum Hydrocarbon,

Diesel Range Extended

PCBs = polychlorinated biphenyls

Summary of TAL Metal Results in Surface Waters Samples Avery Landing Site Avery, Idaho

Sample ID:	07040132	07040133	07040134	A	RARs
				Idaho	Federal
Sample Location:	SW-01	SW-02	SW-03	REM (1)	AWQC (2)
TAL Metals (μg/L)					
Aluminum	32 U	32 U	32 U	n.a.	n.a.
Antimony	0.203 U	0.0903 U	0.056 U	14	50 (proposed)
Arsenic	0.209 J	0.248 J	0.296 J	50	150
Barium	<u>4.76</u> <u>J</u>	<u>5.11</u> <u>J</u>	<u>4.71</u> <u>J</u>	n.a.	4.0
Beryllium	0.043 U	0.043 U	0.043 U	n.a.	5.3
Cadmium	0.094 U	0.094 U	0.094 U	1.0	0.25 H
Calcium	8,270	8,700	7,920	n.a.	n.a.
Chromium	0.364 U	0.326 U	0.263 U	178	74 H (3)
Cobalt	0.029 J	0.0327 J	0.028 U	n.a.	n.a.
Copper	0.52 UJ	0.52 UJ	0.52 UJ	11	9 H
Iron	53.2 J	53.6 J	48.7 J	n.a.	1000
Lead	0.075 UJ	0.075 UJ	0.075 UJ	2.5	2.5 H
Magnesium	1,830 J	1,930 J	1,770 J	n.a.	n.a.
Manganese	1.07 J	1.31 J	1.37 J	n.a.	120
Mercury	0.018 UJ	0.018 UJ	0.018 UJ	0.012	0.77
Nickel	0.364 U	0.32 U	0.282 U	157	52 H
Potassium	455	488	431	n.a.	n.a.
Selenium	0.11 UJ	0.11 UJ	0.11 UJ	5.0	5.0
Silver	0.085 U	0.085 U	0.085 U	3.4	1.6 H
Sodium	1,030	1,020	971	n.a.	n.a.
Thallium	0.044 U	0.044 U	0.044 U	1.7	40
Vanadium	0.173 U	0.231 U	0.342 U	n.a.	n.a.
Zinc	9.55 UJ	1.8 UJ	2.48 UJ	105	120 H

Notes: Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the Federal AWQC.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) Ambient Water Quality Criteria (Buchman 1999).
- (3) Chromium value is for chromium (III).

Key:

ARAR = applicable or relevant and appropriate requirement

AWQC = Ambient Water Quality Criteria

H = value is hardness dependent; a hardness of 100 mg/L is assumed.

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ mg/L & = milligrams \ per \ liter \\ \mu g/L & = microgram \ per \ liter \\ TAL & = target \ analyte \ list \end{array}$

Summary of Volatile Organic Compund Results in Product Sample Avery Landing Site Avery, Idaho

Sample Number:	7040131
Sample Location:	HC-4
VOCs (μg/L)	
1,1,1-Trichloroethane	2,000 U
1,1,2,2-Tetrachloroethane	2,000 U
1,1,2-Trichloroethane	2,000 U
1,1-Dichloroethane	2,000 U
1,1-Dichloroethene	2,000 U
1,2-Dichloroethane	2,000 U
cis-1,2-Dichloroethene	2,000 U
trans-1,2-Dichloroethene	2,000 U
1,2-Dichloropropane	2,000 U
cis-1,3-Dichloropropene	2,000 U
trans-1,3-Dichloropropene	2,000 U
2-Butanone	10,000 U
2-Hexanone	10,000 U
4-Methyl-2-pentanone	10,000 U
Acetone	10,000 U
Benzene	2,000 U
Bromodichloromethane	1,500 J
Bromoform	2,000 U
Bromomethane	2,000 U
Carbon disulfide	2,000 U
Carbon tetrachloride	2,000 U
Chlorobenzene	1,600 J
Chloroethane	2,000 U
Chloroform	2,000 U
Chloromethane	2,000 U
Dibromochloromethane	2,000 U
Dichlorodifluoromethane	2,000 U
Ethylbenzene	2,000 U
Methylene chloride	2,700
Styrene	2,000 U
Tetrachloroethene	2,000 U
Toluene	2,000 U
Trichloroethene	2,000 U
Trichlorofluoromethane	2,000 U
Vinyl chloride	2,000 U
m,p-Xylene	4,000 U
o-Xylene	2,000 U

Note: Italics indicates that the compound was not detected.

Key:

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ \mu g/L & = microgram \ per \ liter \end{array}$

Table 4-15

Summary of Semivolatile Organic Compund Results in Product Sample Avery Landing Site Avery, Idaho

Sample ID:	07040131
Sample Location:	HC-4
SVOCs (μg/kg)	
1,2,4-Trichlorobenzene	43,000 U
1,2-Dichlorobenzene	43,000 U
1,3-Dichlorobenzene	43,000 U
1,4-Dichlorobenzene	43,000 U
1-Methylnaphthalene	1,700,000
2,4,5-Trichlorophenol	85,000 U
2,4,6-Trichlorophenol	130,000 U
2,4-Dichlorophenol	85,000 U
2,4-Dimethylphenol	85,000 U
2,4-Dinitrophenol	850,000 U
2,4-Dinitrotoluene	85,000 U
2,6-Dinitrotoluene	85,000 U
2-Chloronaphthalene	17,000 U
2-Chlorophenol	85,000 U
2-Methylnaphthalene	2,400,000
2-Methylphenol	85,000 U
2-Nitroaniline	85,000 U
2-Nitrophenol	85,000 U
3 & 4 Methylphenol	170,000 U
3,3'-Dichlorobenzidine	170,000 U
3-Nitroaniline	85,000 U
4,6-Dinitro-2-methylphenol	850,000 U
4-Bromophenyl phenyl ether	85,000 U
4-Chloro-3-methylphenol	85,000 U
4-Chloroaniline	85,000 U
4-Chlorophenyl phenyl ether	85,000 U
4-Nitroaniline	85,000 U
4-Nitrophenol	850,000 U
Acenaphthene	130,000
Acenaphthylene	17,000 U
Anthracene	63,000
Benzo[a]anthracene	17,000 J
Benzo[a]pyrene	24,000 J
Benzo[b]fluoranthene	21,000
Benzo[g,h,i]perylene	21,000 U
Benzo[k]fluoranthene	21,000 U
Benzoic acid	2,100,000 U

Key is on last page.

Summary of Semivolatile Organic Compund Results in Product Sample Avery Landing Site Avery, Idaho

Sample ID:	07040131
Sample Location:	HC-4
SVOCs (μg/kg)	
Benzyl alcohol	85,000 U
Bis(2-chloroethoxy)methane	85,000 U
Bis(2-chloroethyl)ether	85,000 U
Bis(2-chloroisopropyl) ether	130,000 U
Bis(2-ethylhexyl) phthalate	1,300,000 U
Butyl benzyl phthalate	85,000 U
Carbazole	130,000 UJ
Chrysene	29,000
Dibenz[a,h]anthracene	34,000 U
Dibenzofuran	85,000 U
Diethyl phthalate	85,000 U
Dimethyl phthalate	85,000 U
Di-n-butyl phthalate	170,000 U
Di-n-octyl phthalate	170,000 U
Fluoranthene	37,000
Fluorene	360,000
Hexachlorobenzene	43,000 U
Hexachlorobutadiene	43,000 U
Hexachlorocyclopentadiene	85,000 U
Hexachloroethane	85,000 U
Indeno[1,2,3-cd]pyrene	34,000 UJ
Isophorone	85,000 U
Naphthalene	320,000
Nitrobenzene	85,000 U
N-Nitrosodi-n-propylamine	85,000 U
N-Nitrosodiphenylamine	43,000 UJ
Pentachlorophenol	85,000 U
Phenanthrene	700,000
Phenol	85,000 U
Pyrene	69,000

Note: Italics indicates that the compound was not detected.

Key:

ID = identification J = estimated value

μg/kg = microgram per kilogram

SVOC = semivolatile organic compound

Summary of PCB and NWTPH-Dx Results in Product Sample Avery Landing Site Avery, Idaho

Sample ID:	07040131
Sample Location:	HC-4
PCBs (μg/kg)	
Aroclor-1016	470 U
Aroclor-1221	470 U
Aroclor-1232	470 U
Aroclor-1242	470 U
Aroclor-1248	470 U
Aroclor-1254	470 U
Aroclor-1260	330 J
NWTPH-Dx (mg/kg)	
Sample ID:	07040131
Sample Location:	HC-4
Diesel-Range Organics	1,100,000
Oil-Range Organics	260,000

Note: Italics indicates that the compound was not detected.

Key:

ID = identification J = estimated value

μg/kg = microgram per kilogram mg/kg = milligrams per kilogram

NWTPH-Dx = Northwest Total Petroleum Hydrocarbon,

Diesel Range Extended

PCBs = polychlorinated biphenyls

Summary of TAL Metals Results in Product Sample Avery Landing Site Avery, Idaho

Sample ID:	07040131
Sample Location:	HC-4
TAL Metals (mg/kg)	
Aluminum	71.2
Antimony	0.28 J
Arsenic	3.1
Barium	2.3
Beryllium	0.013 U
Cadmium	0.061 J
Calcium	55.9 J
Chromium	3.4
Cobalt	0.38
Copper	10.9
Iron	35.9
Lead	1.6
Magnesium	1.3 U
Manganese	0.74 J
Mercury	0.00546 U
Nickel	21.8
Potassium	7.6 J
Selenium	0.23 J
Silver	0.038 J
Sodium	5.5 J
Thallium	0.0091 U
Vanadium	21.9
Zinc	1.5 U

Note: Italics indicates that the compound was not detected.

Key:

ID = identification J = estimated value

mg/kg = milligrams per kilogram

TAL = target analyte list

U = not detected (at the indicated reporting limit)

Table 4-18

Summary of Exceedences of Federal Action Levels in Soil Avery Landing Site Avery, Idaho

D.	G. J. W.	Benzo[a] anthracene μg/kg	Benzo[a] pyrene µg/kg	Benzo[b] fluoranthrene μg/kg	Dibenz[a,h] anthracene μg/kg	Arsenic (1) mg/kg
Property	Sample ID	μg/kg	μg/Kg	μg/Kg	μg/Kg	mg/kg
EPA Region 6 HHMSSL - Residential Soil		150	15	150	15	0.39
	EMW-01	n.d.	n.d.	n.d.	n.d.	17.3 J
	EMW-02	n.e.	85	n.e.	n.d.	8.6 J
Bentcik	EMW-06	n.e.	n.d.	n.d.	n.d.	7.5 J
Bentcik	ESB-04	860 / 190	650 / 110	490	n.d.	16.1 J / 5.4 J
	ESB-05	n.e.	37	n.e.	n.d.	17 J
	ESB-06	n.e.	62 J	n.e.	n.d.	6.1 J
	EMW-03	n.d.	n.d.	n.d.	n.d.	7.3 J
	EMW-04	n.e.	58	n.e.	n.e.	12 J
	EMW-05	210	110	n.e.	n.d.	5.7 J
Potlatch	ESB-01	n.d.	n.d.	n.d.	n.d.	15.7 J
	ESB-02	n.e.	43	n.e.	40 J	16.9 J
	ESB-03	n.e.	81 J	n.e.	n.d.	4.2 J
	ESB-07	n.e.	44	n.e.	n.d.	5.1 J

Note: (1) The upper limit of background soil concentrations for arsenic in the nearby Coeur d'Alene and Spokane River basins is 22 mg/kg (URS Greiner 2001).

Key:

HHMSSL = Human Health Medium-Specific Screening Level

n.d. = not detected

n.e. = no exceedence of EPA HHMSSL.

Summary of Exceedences of State Action Levels in Soil Avery Landing Site Avery, Idaho

Property	Sample ID	2-Methyl naphthalene ug/kg	4-Nitro aniline ug/kg	Benzo[a] anthracene ug/kg	Benzo[a] pyrene ug/kg	Benzo[b] fluoranthrene ug/kg	Naphthalene ug/kg	Arsenic ⁽¹⁾ mg/kg	Iron mg/kg	Lead mg/kg	Manganese mg/kg	Mercury mg/kg
Idaho l	Risk Evaluation Manual	3,310	3	422	42	422	1,144	0.39	5.8	50	223	0.0051
	EMW-01	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	17.3 J	24,600	n.e.	403 J	0.0199 J
	EMW-02	n.e.	n.d.	n.e.	85	n.e.	n.e.	8.6 J	20,000	n.e.	260 J	0.0124 J
Bentcik	EMW-06	44,000	n.d.	n.e.	n.d.	n.d.	4,700	7.5 J	16,900	n.e.	319 J	0.0105 J
Benteik	ESB-04	18,000	n.d.	860	650 / 110	490	3,100	16.1 J / 5.4 J	16,800 / 16,300	69.1	315 J / 240 J	0.0312 J
	ESB-05	n.e.	5.4 J	n.e.	37	n.e.	n.e.	17 J	18,400	n.e.	n.e.	n.d.
	ESB-06	9,800	n.d.	n.e.	62 J	n.e.	2,600 J	6.1 J	17,100	n.e.	n.e.	n.d.
	EMW-03	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	7.3 J	15,100	n.e.	n.e.	0.0114 J
	EMW-04	n.e.	n.d.	n.e.	58	n.e.	n.e.	12 J	19,700	145	354 J	0.0553 J
	EMW-05	23,000	n.d.	n.e.	110	n.e.	3,600	5.7 J	18,000	n.e.	271 J	0.0119 J
Potlatch	ESB-01	n.e.	n.d.	n.d.	n.d.	n.d.	n.d.	15.7 J	18,900	n.e.	n.e.	n.d.
	ESB-02	n.e.	n.d.	n.e.	43	n.e.	n.e.	16.9 J	19,300	159	288 J	0.117
	ESB-03	15,000	n.d.	n.e.	81 J	n.e.	6,000 J	4.2 J	15,000	n.e.	n.e.	n.d.
	ESB-07	n.e.	n.d.	n.e.	44	n.e.	n.e.	5.1 J	15,100	n.e.	n.e.	n.d.

Note: (1) The upper limit of background soil concentrations for arsenic in the nearby Coeur d'Alene and Spokane River basins is 22 mg/kg (URS Greiner 2001).

Key:

n.d. = not detected

n.e. = no exceedence of Idaho Risk Evaluation Manual

Summary of Exceedences of Federal Action Levels in Water Avery Landing Site Avery, Idaho

Property	Sample ID	Benzo[a] anthracene ug/L	Benzo[a] pyrene ug/L	Benzo[b] fluoranthrene ug/L	Benzo[g,h,i] perylene ug/L	Chrysene ug/L	Naphthalene ug/L	Aluminum ug/L	Arsenic ug/L	Iron ug/L	Lead ug/L	Manganese ug/L	
Groundwate	Groundwater												
Drii	nking Water Standard (MCL)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	200 (1)	10 (2)	300	15	50	
EPA Re	egion 6 HHMSSL - Tap Water	0.029	0.0029	0.15	0.029	2.9	6.2	36,500	0.045	25,550	15	1,700	
	EMW-01	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	n.d.	0.303 J	n.e.	n.d.	120	
Bentcik	EMW-02	0.37	0.20	n.e.	0.11	n.e.	n.e.	2,050	88.6	26,100	n.e.	3,300	
Denterk	EMW-06	1.6	0.85	0.84	0.51	3.0	63	32,200	58.6	80,500	39.8	3,920	
	MW-5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	0.655 J	n.e.	n.e.	n.e.	
	EMW-03	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	30.7	30,800	n.e.	5,510	
	EMW-04	n.e.	n.d.	n.e.	0.037	n.e.	n.d.	n.e.	13.7	31,300	n.e.	3,430	
Potlatch	EMW-05	n.d.	n.d.	n.d.	n.d.	n.d.	7.1	634	51.4	23,000	n.e.	2,980	
	HC-1R	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	46.6	50,600	n.d.	5,630	
	DW-01	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	1.06	n.e.	n.d.	n.e.	
Surface Wa	ter												
	Federal AWQC	n.a.	0.014	n.a.	n.a.	n.a.	n.a.	n.a.	150	n.a.	2.5	120	
Bentcik	SW-03	n.e.	0.027	n.e.	n.d.	n.e.	n.e.	n.d.	n.e.	n.e.	n.d.	n.e.	

Notes: Bis(2-ethyl hexyl) phthalate is not included because it is a common laboratory contaminant and it was present in the background well.

Barium is not included for surface water because the concentrations exceeded the Federal AWQC in all three samples, including the upstream/background sample.

A bold sample result indicates that the sample exceeds both the MCL and the Region 6 tap water guideline.

- (1) For aluminum, the federal regulation specifies a range of 50 to 200 µg/L, and the state of Idaho has set the standard at 200 µg/L.
- (2) For arsenic, the state standard is 50 μ g/L, and the federal standard is 10 μ g/L.

Key:

AWQC = Ambient Water Quality Criteria

HHMSSL = Human Health Medium-Specific Screening Level

MCL = Maximum Contaminant Level

n.a. = not applicable n.d. = not detected

n.e. = no exceedence of applicable standard or guideline

Summary of Exceedences of State Action Levels in Water Avery Landing Site Avery, Idaho

Property	Sample ID	2-Methyl naphthalene ug/L	Benzo[a] anthracene ug/L	Benzo[a] pyrene ug/L	Benzo[a] fluoranthrene ug/L	Chrysene ug/L	N-Nitro sodiphenyl amine ug/L	Aluminum ug/L	Arsenic ug/L	Iron ug/L	Lead ug/L	Manganese ug/L	PCBs (Aroclor 1260) ug/L
Groundwa	Groundwater												
Groun	dwater Standard (MCL)	n.a.	n.a.	0.20	n.a.	n.a.	n.a.	200 (1)	50 ⁽²⁾	300	15	50	0.5
Idaho	Risk Evaluation Manual	42	0.077	0.20	0.077	7.7	11	n.a.	10	3,130	15	250	0.0279
	EMW-01	n.e.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	n.e.	n.d.	n.e.	n.d.
Bentcik	EMW-02	n.e.	0.37	0.20	0.12	n.e.	n.d.	2,050	88.6	26,100	n.e.	3,300	n.d.
Denterk	EMW-06	270	1.6	0.85	0.84	n.e.	12	32,200	58.6	80,500	39.8	3,920	0.028
	MW-5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	n.e.	n.e.	n.e.	n.e.	n.d.
	EMW-03	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	30.7	30,800	n.e.	5,510	n.d.
	EMW-04	n.d.	n.e.	n.d.	n.e.	n.e.	n.d.	n.e.	13.7	31,300	n.e.	3,430	n.d.
Potlatch	EMW-05	n.e.	n.d.	n.d.	n.d.	n.d.	n.d.	634	51.4	23,000	n.e.	2,980	n.d.
	HC-1R	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	46.6	50,600	n.d.	5,630	n.d.
	DW-01	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	n.e.	n.d.	n.e.	n.d.
Surface W	Surface Water												
Idaho Risk Evaluation Manual n.a. 0.0028 0.0028 0.0028 n.a. n.a. 50 n.a. 2.5 n.a.							n.a.	n.a.					
Bentcik	SW-03	n.d.	0.011 J	0.027	0.023 J	0.016 J	n.d.	n.d.	n.e.	n.e.	n.d.	n.e.	n.d.

Note:

Bis(2-ethyl hexyl) phthalate is not included because it is a common laboratory contaminant and it was present in the background well.

A bold sample result indicates that the sample exceeds both the groundwater standard and the Idaho Risk Evaluation Manual guideline.

- (1) For aluminum, the federal regulation specifies a range of 50 to 200 μ g/L, and the state of Idaho has set the standard at 200 μ g/L.
- (2) For arsenic, the state standard is 50 $\mu g/L$, and the federal standard is 10 $\mu g/L$.

Key:

n.a. = not applicable n.d. = not detected

n.e. = no exceedence of Idaho Risk Evaluation Manual

Table 4-22

Comparison of Soil Sample Results to Consensus-Based Sediment Threshold Effect Concentrations

Avery Landing Site

Avery, Idaho

Avery, Idaho														
Sample ID:	07040102	07040104	07040106	07040108	07040110	07040114	07040116	07040117	Consensus-Based Sediment					
Sample Location:	EMW-01 SB 02	EMW-02 SB 07	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 09	ESB-01 SB 07	ESB-02 SB 03	TEC (1)					
PAHs (μg/kg)														
Anthracene	14 J	91	2.7 U	7.1 J	700	250	22 U	6.5 J	57.2					
Benzo[a]anthracene	27 UJ	120	3.4 U	38 J	210	53	28 U	29	108					
Benzo[a]pyrene	33 UJ	85	4.1 U	58	110	39 U	33 U	43	150					
Chrysene	27 UJ	180	3.4 U	48	360	120	28 U	37	166					
Dibenz[a,h]anthracene	44 UJ	47 U	5.5 U	36 J	50 U	53 U	45 U	40 J	33.0					
Fluoranthene	26	65	2.7 U	61 J	460	99	22 U	33	423					
Fluorene	22 U	180	9.7	22 U	2,800	4,900	22 U	22 U	77.4					
Naphthalene	22 U	81	2.7 U	19 J	3,600	4,700	22 U	100	176					
Phenanthrene	22 U	420	2.7 U	43	5,800	3,800	22 U	89	204					
Pyrene	44	370	2.7 U	65	840	240	22 U	43	195					
PCBs (μg/kg)														
Aroclor-1260	9.8 J	12 U	130	19	20 J	9.2 J	11 U	4.4 J	59.8 ⁽²⁾					
TAL Metals (mg/kg)														
Sample ID:	07040102	07040105	07040106	07040108	07040110	07040113	07040116	07040117	Consensus-Based Sediment					
Sample Location:	EMW-01 SB 02	EMW-02 SB 05	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 07	ESB-01 SB 07	ESB-02 SB 03	TEC (1)					
Arsenic	17.3 J	8.6 J	7.3 J	12 J	5.7 J	7.5 J	15.7 J	16.9 J	9.79					
Cadmium	0.47 J	0.52 J	0.45 J	0.81 J	0.39 J	0.43 J	0.53 J	0.78 J	0.99					
Chromium	18.8	18.4	11.9	15.1	13.2	12.8	12.1	12.3	43.4					
Copper	23.7	21.5	20.8	101	25.1	20.7	20.5	71.6	31.6					
Lead	11	9.5	9.3	145	6.1	8.3	17.3	159	35.8					
Mercury	0.0199 J	0.0124 J	0.0114 J	0.0553 J	0.0119 J	0.0105 J	0.0064 UJ	0.117	0.18					
Nickel	16.5	16.3	13.3	24.9	13.1	13.4	16.1	32.3	22.7					
Zinc	48.7	47.3	42.2	101	34.9	42.5	26	72.3	121					

Key is on last page.

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Analytical Data Summary Tables, 2009 Potlatch Field Investigation, and START Data Validation Memoranda

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TABLE 3-1 Test Pit Soil Results

				Sample ID	GTP1-2.5- 082709	GTP1-10.5- 082709	GTP1-13.5- 082709	GTP2-2.5- 082709	GTP2-8- 082709	GTP2-13- 082709	GTP3-3.5- 082709	GTP3-5- 082709	GTP3-13.5-082709	082709	GTP4-6.0- 082709	GTP4-8.0- 082709	082709	GTP5-7.0- 082709	GTP5-11- 082809	GTP6-2.5- 082809	GTP6-10- 082809	GTP6-17- 082809
T	Amalutaa	Mathad	Screening	Collection Date	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/27/2009	8/28/2009	8/28/2009	8/28/2009	8/28/2009
Type	Analytes	Method	Level	Units																		
			mg/Kg	Units																		
품	Diesel Range Organics	NWTPH-Dx	NSA	mg/kg dry	452	8670	1630	24.7	< 11.5	< 12.7	44.2	770	23.7	25.6	11.3	< 16.1	< 16.8	774	342 J	< 11.4	9660	431
-	Heavy Oils	NWTPH-Dx	NSA	mg/kg dry	3850	12800	2900	252	< 28.8	< 31.7	209	999	61.4	145	41.9	< 40.1	< 41.9	1090	985 J	< 28.4	3150	1200
	Aroclor 1016	8082	3.9	mg/kg dry	< 0.0096	< 0.0098	< 0.0096	< 0.0099	< 0.0097	< 0.0096	< 0.0099	< 0.0096	0.0098 UJ		< 0.0099	< 0.0099	0.0098 UJ	< 0.012	< 0.0096	< 0.0096	< 0.0094	< 0.0099
	Aroclor 1221	8082	0.17	mg/kg dry	< 0.0096	< 0.0098	< 0.0096	< 0.0099	< 0.0097	< 0.0096	< 0.0099	< 0.0096	< 0.0098		< 0.0099	< 0.0099	0.0098 UJ	< 0.012	< 0.0096	< 0.0096	< 0.0094	< 0.0099
Bs	Aroclor 1232	8082	0.17	mg/kg dry	< 0.0096	< 0.0098	< 0.0096	< 0.0099	< 0.0097	< 0.0096	< 0.0099	< 0.0096	< 0.0098		< 0.0099	< 0.0099	0.0098 UJ	< 0.012	< 0.0096	< 0.0096	< 0.0094	< 0.0099
ភ្ជ	Aroclor 1242	8082 8082	0.22	mg/kg dry	< 0.0096 < 0.0096	< 0.0098 < 0.0098	< 0.0096 < 0.0096	< 0.0099 < 0.0099	< 0.0097 < 0.0097	< 0.0096	< 0.0099 < 0.0099	< 0.0096 < 0.0096	< 0.0098		< 0.0099 < 0.0099	< 0.0099 < 0.0099	0.0098 UJ 0.0098 UJ	< 0.012 < 0.012	< 0.0096 < 0.0096	< 0.0096 < 0.0096	< 0.0094 < 0.0094	< 0.0099 < 0.0099
_	Aroclor 1248 Aroclor 1254	8082	0.22 0.22	mg/kg dry mg/kg dry	< 0.0096	< 0.0098	< 0.0096	< 0.0099 < 0.0099	< 0.0097 < 0.0097	< 0.0096 < 0.0096	< 0.0099	< 0.0096	< 0.0098 < 0.0098		< 0.0099	< 0.0099	0.0098 UJ	< 0.012	< 0.0096	< 0.0096	< 0.0094	< 0.0099
	Aroclor 1260	8082	0.22	mg/kg dry	< 0.0096	< 0.0098	< 0.0096	0.0223	< 0.0097	< 0.0096	< 0.0099	< 0.0096	0.0098 UJ		< 0.0099	< 0.0099	0.0098 UJ	< 0.012	< 0.0096	< 0.0096	< 0.0094	< 0.0099
	Benzo(a)anthracene	8270 SIM	0.15		0.0459	0.348	0.0737 J	0.0168	0.00820	< 0.00465	< 0.00467	0.0295	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	0.00767	0.0130
¥				mg/kg dry																		
G G	Benzo(a)pyrene	8270 SIM	0.02	mg/kg dry	0.0561	0.301	0.0259 J	0.0162	0.00769	< 0.00465	< 0.00467	0.0350	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	0.00488	0.0110
ë	Benzo(b)fluoranthene	8270 SIM	0.15	mg/kg dry	0.0968	< 0.0831	0.0518 J	0.0335	0.0123	< 0.00465	0.00958	0.0627	< 0.00474		0.00953	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	< 0.00471	0.0178
ō	Benzo(k)fluoranthene	8270 SIM	1.5	mg/kg dry	< 0.0268	< 0.0831	< 0.00495 R	< 0.00471	< 0.00461	< 0.00465	< 0.00467	< 0.00645	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	< 0.00471	< 0.00514
Ğ	Chrysene	8270 SIM	15	mg/kg dry	0.0382	0.989	0.168 J	0.0178	0.00871	< 0.00465	0.00670	0.0725	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	0.0153	0.0178
Sar	Dibenzo(a,h)anthracene	8270 SIM	0.02	mg/kg dry	< 0.0268	0.245	0.0290 J	0.00785	< 0.00461	< 0.00465	< 0.00467	0.0154	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	< 0.00471	0.00549
	Indeno(1,2,3-cd)pyrene	8270 SIM	0.15	mg/kg dry	0.0510	0.277	0.0269 J	0.0126	0.00461	< 0.00465	0.00862	0.0264	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	< 0.00471	0.00617
-	Acenaphthene	8270 SIM	52.3	mg/kg dry	< 0.0268	0.498	0.00508 J	< 0.00471	< 0.00461	< 0.00465	< 0.00467	< 0.00645	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	0.172 J	< 0.00514
¥	Acenaphthylene Anthracene	8270 SIM 8270 SIM	78 1040	mg/kg dry mg/kg dry	< 0.0268 < 0.0268	< 0.0831 1.55	< 0.00495 R 0.198 J	< 0.00471 < 0.00471	< 0.00461 < 0.00461	< 0.00465 < 0.00465	< 0.00467 < 0.00467	< 0.00645 0.805	< 0.00474 < 0.00474		< 0.00500 < 0.00500	< 0.00500 < 0.00500	< 0.00447 < 0.00447	< 0.00689 < 0.00689	< 0.0254 < 0.0254	< 0.00455 < 0.00455	< 0.00471 0.754	< 0.00514 0.00823
<u></u>	Benzo(g,h,i)perylene	8270 SIM	1178	mg/kg dry	0.0200	0.459	0.1963 0.0345 J	0.0204	0.00666	< 0.00465	0.0105	0.0541	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	0.734	0.0103
<u>e</u>	Fluoranthene	8270 SIM	364	mg/kg dry	< 0.0268	0.150	0.0452 J	0.0257	0.00820	< 0.00465	0.00527	0.141	< 0.00474		0.00524	< 0.00500	< 0.00447	0.0579	< 0.0254	< 0.00455	0.0914	0.0151
<u>و</u>	Fluorene	8270 SIM	54.8	mg/kg dry	< 0.0268	1.41	0.0853 J	< 0.00471	< 0.00461	< 0.00465	< 0.00467	0.00984	< 0.00474		< 0.00500	< 0.00500	< 0.00447	< 0.00689	< 0.0254	< 0.00455	0.207 J	0.00549
<u>5</u>	Naphthalene	8270 SIM	1.14	mg/kg dry	< 0.0268	0.427	0.0818	< 0.00471	< 0.00461	< 0.00465	< 0.00467	< 0.00645	< 0.00474	< 0.00492	< 0.00500	< 0.00500	< 0.00447	0.0147	< 0.0254	< 0.00455	2.39 J	0.0185
Ca	Phenanthrene	8270 SIM	79	mg/kg dry	< 0.0268	0.894	0.0635 J	0.00628	< 0.00461	< 0.00465	0.00527	0.0799	< 0.00474		< 0.00500	< 0.00500	< 0.00447	0.0340	< 0.0254	< 0.00455	< 0.00471	0.0130
Ę	Pyrene	8270 SIM	359	mg/kg dry	0.133	2.25	0.396 J	0.0398	0.0138	< 0.00465	0.0101	0.168	< 0.00474		0.00905	< 0.00500	< 0.00447	0.295	< 0.0254	< 0.00455	0.112	0.0343
ž	1-Methylnaphthalene	8270 SIM	22	mg/kg dry	< 0.0268	< 0.0831	0.0579	< 0.00471	< 0.00461	< 0.00465	< 0.00467	0.0105	< 0.00474		< 0.00500	< 0.00500	< 0.00447	0.00826	< 0.0254	< 0.00455	20.9 J	0.0412
	2-Methylnaphthalene Aluminum	8270 SIM 6010 / 6020	310 77000	mg/kg dry	< 0.0268 8200	< 0.0831 10000 J	< 0.00495 6800	< 0.00471 14000	< 0.00461 15000	< 0.00465 9400	< 0.00467 13000	0.0105 9200	< 0.00474 16000	< 0.00492 · 9100	< 0.00500 14000	< 0.00500 6000	< 0.00447 10000	< 0.00689 6300	< 0.0254 5100	< 0.00455 11000	39.1 J 6100	0.0658 7100 J
	Arsenic	6010 / 6020	0.4	mg/kg dry mg/kg dry	8 8	5.7	11	14000 18	32	9400 21	8.5	8.9	4 5	20	28	9.4	15 15	3.6	3.7	11000	4.7	8.3
	Antimony	6010 / 6020	4.8	mg/kg dry	13	0.45	1.3	2.1	1.1	0.44	0.85	1.1	0.87	1.3	1.6	0.62	1.5	0.42 U	1.9	0.89	0.64	1.8
	Barium	6010 / 6020	896	mg/kg dry	1100	76	64	240	100	61	88	180	110	87	130	39	63	150	27	78	89	54
	Beryllium	6010 / 6020	1.63	mg/kg dry	1.1	0.37	0.29	10	0.61	0.37	0.82	0.51	0.75	0.45	0.81	0.22 U	0.55	0.32 U	0.25	0.52	0.32 U	0.3
	Calcium	6010 / 6020	NSA	mg/kg dry	8800	1600	1500	6400	2100	1500	5200	5300	1800	2500	3600	900	2700	5900	3200	5400	2800	2100
	Cadmium	6010 / 6020	1.35	mg/kg dry	0.42	0.26 U	0.21 U	0.94	0.3	0.18 J	0.27	0.28	0.32	0.34	0.61	0.22 U	0.31	0.32 U	0.19 J	0.34	0.32 U	0.29
	Chromium	6010 / 6020	2135 23	mg/kg dry	8.6 7.6	11	7.6 8.9	13 7.5	16 8.2	11 6.5	12 8.7	10 5.9	18 12	11	14	7.2 5.1	8.3 12	5.3 4	6.2 4.4	9.4 11	6.4 4.3	8.8 6.2
s	Cobalt Copper	6010 / 6020 6010 / 6020	921	mg/kg dry mg/kg dry	160	6.8 J 18	31	7.5 50	19	19	23	31	29	9.2 49	11 63	27	22	16	70	26	4.3 17	50 J
fal	Iron	6010 / 6020	5.8	mg/kg dry	13000	15000 J	13000	16000	16000	13000	15000	12000	20000	14000	19000	12000	18000	7800	9000	18000	9500	12000 J
ĕ	Lead	6010 / 6020	49.6	mg/kg dry	410	8.4	16	140	22	7.2	72	44	11	53	55	21	9.3	7.4	41	11	34	34
<u>fa</u>	Magnesium	6010 / 6020	NSA	mg/kg dry	2700	5700	3900	4300	8800	4600	9600	5300	6100	3300	3300	3200	4400	2800	2900	3500	2700	3500 J
P	Manganese	6010 / 6020	223	mg/kg dry	240	130	140	370	490	370	520	400	560	320	500	260	540	330	49	500	200	200
	Mercury	7470A / 7471B		mg/kg dry	0.0083 J	0.015 J	0.013 J	0.027	0.024	< 0.024	0.018 J	0.11	< 0.026	0.016 J	0.022	0.012 J	0.025	<0.040	0.014 J	0.018 J	0.023 J	0.017 J
	Nickel	6010 / 6020	59.1	mg/kg dry	25	13	12	17	15	11	13	13	19	14	25	11	17	6.7	16	18	7.7	12 J
	Potassium Selenium	6010 / 6020 6010 / 6020	NSA 2	mg/kg dry	780 0.4 J	1400 0.19 J	1200 0.2 J	1900 0.36 J	3200 0.094 J	1600 0.14 J	2900 0.1 J	2100 0.16 J	2800 0.15 J	1200 0.16 J	1500 0.19 J	1100 0.063 J	1600 0.13 J	1700 0.063 J	660 0.11 J	1400 0.11 J	1500 0.023 J	1200 0.1 J
	Silver	6010 / 6020	0.19	mg/kg dry mg/kg dry	< 1.1	< 1.3	< 1.0	< 1.2	< 1.1	< 1.2	< 1.1	< 1.3	< 1.2	< 1.0	< 1.1	< 1.1	< 1.0	< 2.1	< 1.1	< 1.1	< 1.6	< 1.4
	Sodium	6010 / 6020	NSA	mg/kg dry	170 J	130 UJ	100 UJ	43 J	110 UJ	120 UJ	110 UJ	130 UJ	120 UJ	100 UJ	110 UJ	110 UJ	100 UJ	210 UJ	110 UJ	110 UJ	160 UJ	140 UJ
	Thallium	6010 / 6020	1.55	mg/kg dry	0.45 U	0.53 U	0.41 U	0.47 U	0.45 U	0.50 U	0.42 U	0.51 U	0.49 U	0.15 U	0.42 U	0.43 U	0.42 U	0.83 U	0.44 U	0.43 U	0.64 U	0.55 U
	Vanadium	6010 / 6020	2.4	mg/kg dry	37	26	18	24	24	19	19	19	34	18	29	13	16	11	18	18	11	16
N1. 1	Zinc	6010 / 6020	886	mg/kg dry	70	34 J	25	180	30	31	72	72	40	66	90	57	27	49	65	28	37	46 J

Notes:



Bold - Detection is above media Screening Levels

NSA - No screening level available.

" < " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively identified. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate.

R - The data is rejected due to a deficiency in quality control criteria.

TABLE 3-1 Test Pit Soil Results

				Sample ID	GTP1-2.5-	GTP1-10.5-	GTP1-13.5-	GTP2-2.5-	GTP2-8-	GTP2-13-	GTP3-3.5-	GTP3-5-		GTP4-2.5-	GTP4-6.0-	GTP4-8.0-	GTP5-3.0-	GTP5-7.0-	GTP5-11-	GTP6-2.5-	GTP6-10-	GTP6-17-
			Screening	Collection Date	082709 8/27/2009	GTP3-13.5-082709 8/27/2009	082709 8/27/2009	082709 8/27/2009	082709 8/27/2009	082709 8/27/2009	082709 8/27/2009	082809 8/28/2009	082809 8/28/2009	082809 8/28/2009	082809 8/28/2009							
Туре	Analytes	Method	Level	Collection Date	0/2//2009	0/2//2009	0/21/2009	0/2//2009	0/2//2009	0/21/2009	0/2//2009	0/2//2009	0/2//2009	0/21/2009	0/21/2009	0/2//2009	0/2//2009	0/2//2009	0/20/2009	0/20/2009	0/20/2009	0/20/2009
Турс	Analytes	Method	mg/Kg	Units																		
	1-Methylnaphthalene	8270C	22	mg/kg dry	0.023 J	< 0.41	< 0.32	< 0.36	< 0.0035	< 0.0078	0.001 J	0.012	< 0.0078	0.0086	< 0.033	< 0.0034	< 0.0032	0.016	< 0.066	0.0016 J	45	0.33
	2-Methylnaphthalene	8270C	310	mg/kg dry	< 0.23	< 0.27	< 0.21	< 0.24	< 0.0023	< 0.0052	0.0023 J	0.013	< 0.0052	0.015	< 0.022	0.00031 J	< 0.0022	0.01	< 0.044	0.002 J	78	0.48
	2-Methylphenol	8270C	1.8	mg/kg dry	< 1.1	< 1.4	< 1.1	< 1.2	< 0.012	< 0.026	< 0.022	0.005 J	< 0.026	< 0.021	< 0.11	< 0.011	< 0.011	< 0.020	< 0.22	< 0.011	< 0.16	< 0.028
	3 & 4 Methylphenol	8270C	NSA	mg/kg dry	< 2.3	< 2.7	< 2.1	< 2.4	< 0.023	< 0.052	< 0.044	0.066	< 0.052	< 0.042	< 0.22	< 0.023	< 0.022	< 0.041	< 0.44	< 0.022	< 0.33	< 0.056
	Acenaphthene	8270C	52	mg/kg dry	< 0.23	1.6	< 0.21	< 0.24	< 0.0023	< 0.0052	0.00082 J	< 0.0055	< 0.0052	< 0.0042	< 0.022	< 0.0023	< 0.0022	< 0.0041	< 0.044	< 0.0022	1.2	0.029
	Acenaphthylene	8270C	78	mg/kg dry	< 0.23	< 0.27	< 0.21	< 0.24	0.00072 J	< 0.0052	< 0.0044	< 0.0055	< 0.0052	0.0025 J	< 0.022	< 0.0023	< 0.0022	< 0.0041	< 0.044	< 0.0022	< 0.033	< 0.0056
	Anthracene	8270C	1040	mg/kg dry	< 0.23	< 0.27	< 0.21	< 0.24	0.00084 J	< 0.0052	0.0016 J	< 0.0055	< 0.0052	0.0031 J	0.0052 J	< 0.0023	< 0.0022	< 0.0041	< 0.044	< 0.0022	< 0.033	0.0088
	Benzo[a]anthracene	8270C	0.15	mg/kg dry	0.1 J	0.36	0.062	< 0.3	0.0057	0.001 J	0.0073	0.049	< 0.0065	0.0055	0.01 J	0.00068 J	< 0.0027	< 0.0051	< 0.055	< 0.0028	0.026 J	0.051
	Benzo[a]pyrene	8270C	0.015	mg/kg dry	< 0.34	0.59	0.057	0.072 J	0.0047	0.00086 J	0.0065 J	0.037	< 0.0078	0.0071	0.01 J	0.0013 J	0.0008 J	< 0.0061	< 0.066	0.0016 J	< 0.049	0.041
	Benzo[b]fluoranthene	8270C	0.15	mg/kg dry	< 0.23	< 0.27	< 0.21	< 0.24	0.0057	< 0.0052	0.0099	0.054	< 0.0052	0.0099	0.0076 J	0.00082 J	0.00091 J	< 0.0041	< 0.044	0.00098 J	< 0.033	0.049
	Benzo[g,h,i]perylene	8270C	1178	mg/kg dry	0.18 J	< 0.34	< 0.27	< 0.3	0.002 J	< 0.0065	0.0066	0.021	< 0.0065	0.016	0.006 J	< 0.0028	0.00086 J	< 0.0051	< 0.055	0.0011 J	< 0.041	0.024
	Benzo[k]fluoranthene	8270C	1.5	mg/kg dry	< 0.28	< 0.34	< 0.27	< 0.3	0.0018 J	< 0.0065	0.0028 J	0.011	< 0.0065	0.0023 J	0.0058 J	0.00019 J	0.00016 J	< 0.0051	< 0.055	0.00038 J	< 0.041	0.012
es	bis(2-ethylhexyl) phthalate	8270C	11.8	mg/kg dry	< 17	< 20	< 16	< 18	< 0.17	< 0.39	0.12 J	0.3 J	< 0.39	0.15 J	< 2.7	< 0.28	< 0.27	< 0.51	< 5.5	< 0.28	< 4.1	< 0.70
ati	Butyl benzyl phthalate	8270C	260	mg/kg dry	< 1.1	< 1.4	< 1.1	< 1.2	< 0.012	< 0.026	0.014 J	< 0.027	< 0.026	< 0.31	< 1.6	< 0.17	< 0.16	< 0.31	< 3.3	< 0.17	< 2.5	< 0.42
₹	Benzoic Acid	8270C	77	mg/kg dry	< 28	< 34	< 27	< 30	< 0.29	< 0.32	< 0.55	< 0.68	< 0.65	< 0.021	< 0.11	< 0.011	< 0.011	< 0.020	< 0.22	< 0.011	< 0.16	< 0.028
Ē	Carbazole	8270C	NSA	mg/kg dry	< 1.7	2.0 UJ	< 1.6	< 1.8	< 0.017	< 0.039	0.0015 J	< 0.041	< 0.039	0.0018 J	< 0.16	0.017 UJ	0.016 UJ	0.031 UJ	< 0.33	0.017 UJ	< 0.25	0.042 UJ
Se	Chrysene	8270C	15	mg/kg dry	0.11 J	1.9	0.34	< 0.3	0.0068	0.0017 J	0.01	0.1	0.012	0.0081	0.014 J	0.00045 J	< 0.0027	< 0.0051	< 0.055	< 0.0028	0.047	0.069
	Dibenzo(a,h)anthracene	8270C	0.015	mg/kg dry	< 0.45	< 0.54	< 0.43	< 0.49	< 0.0046	< 0.01	0.0014 J	0.0081 J	< 0.010	< 0.0084	< 0.044	< 0.0045	< 0.0043	< 0.0082	< 0.088	< 0.0045	< 0.065	0.0079 J
	Dibenzofuran	8270C	6.1	mg/kg dry	< 1.1	0.56 J	< 1.1	< 1.2	< 0.012	< 0.026	0.00085 J	< 0.027	< 0.026	< 0.021	< 0.11	< 0.011	< 0.011	< 0.020	< 0.22	< 0.011	< 0.16	< 0.028
	Diethyl phthalate	8270C	27.5	mg/kg dry	0.2 J	< 1.4	< 1.1	< 1.2	0.0019 J	0.002 J	0.0036 U	< 0.027	0.0069 U	0.0036 U	0.019 J	0.011 U	0.011 U	< 0.020	< 0.22	0.011 U	< 0.16	< 0.028
	Di-n-butyl phthalate	8270C	31	mg/kg dry	< 2.3	< 2.7	< 2.1	< 2.4	0.0071 U	0.0067 U	0.008	< 0.055	0.0091 U	0.01 U	< 0.22	0.023 U	0.022 U	0.2 J	< 0.44	0.022 U	0.33 U	< 0.056
	Di-n-octyl phthalate	8270C	1829	mg/kg dry	< 2.3	2.7 U	< 2.1	< 2.4	< 0.023	< 0.052	< 0.044	< 0.055	< 0.052	< 0.042	< 0.22	< 0.023	< 0.022	< 0.041	< 0.44	< 0.022	< 0.33	< 0.056
	Fluoranthene	8270C	364	mg/kg dry	< 0.23	1.0	0.13	0.089 J	0.0078	0.001 J	0.015	0.077	0.0021 J	0.0082	0.017 J	< 0.0023	< 0.0022	< 0.0041	< 0.044	< 0.0022	0.15	0.04
	Fluorene	8270C	54.8	mg/kg dry	< 0.23	4.5	0.38	< 0.24	< 0.0023	< 0.0052	0.0014 J	0.012	< 0.0052	< 0.0042	< 0.022	< 0.0023	< 0.0022	0.0082	< 0.044	< 0.0022	2.1	0.032
	Indeno[1,2,3-cd]pyrene	8270C	0.15	mg/kg dry	0.06 J	< 0.54	< 0.43	< 0.49	0.0024 J	< 0.01	0.0041 J	0.018	< 0.010	0.0073 J	0.0047 J	0.0006 J	0.00065 J	< 0.0082	< 0.088	0.0007 J	< 0.065	0.013
	Naphthalene	8270C	1.14	mg/kg dry	< 0.23	< 0.27	< 0.21	< 0.24	< 0.0023	< 0.0052	0.0012 J	0.0065	< 0.0052	0.0076	< 0.022	0.00027 J	< 0.0022	0.031	< 0.044	0.0011 J	27	0.096
	Phenanthrene Phenol	8270C 8270C	79 7.4	mg/kg dry	< 0.23	< 0.27	< 0.21	< 0.24	0.0029 < 0.012	< 0.0052 < 0.013	0.0092 < 0.022	0.083 <0.027	< 0.0052 < 0.026	0.0064	0.0077 J < 0.11	< 0.0023 < 0.011	< 0.0022 < 0.011	0.062 < 0.020	< 0.044 < 0.22	< 0.0022 < 0.011	2.4	0.051 0.0095 J
		8270C 8270C	7.4 359	mg/kg dry mg/kg dry	< 1.1 0.089 J	< 1.4 1.5	< 1.1 0.19	< 1.2 0.081 J	0.0087		0.022	0.027		< 0.021 0.0099	< 0.11 0.015 J	< 0.011	< 0.011	< 0.020	< 0.22 0.012 J	< 0.011	< 0.16 0.12	0.0095 3
	Pyrene 1,2,4-Trimethylbenzene	8260B	559 67		0.069 J 0.14 J	< 0.15	< 0.080	< 0.22	< 0.072	0.0012 J < 0.055	0.013 0.017 J	0.094 0.021 J	0.0046 J < 0.070	0.0099	0.015 J 0.054 J	< 0.0023	< 0.060	0.12 J	< 0.012 3	< 0.0022	53	0.063
	1,2,4-11inlethylberizerie	8260B	5.25	mg/kg dry mg/kg dry	< 0.14 3	< 0.15	< 0.080	< 0.22	< 0.072	< 0.055	< 0.10	< 0.088	< 0.070	< 0.044	< 0.054 5	< 0.048	< 0.060	< 0.12 3	< 0.053	< 0.056	< 0.14	< 0.089
	1,3,5-Trimethylbenzene	8260B	47	mg/kg dry	0.048 J	< 0.15	< 0.080	< 0.22	< 0.072	< 0.055	< 0.10	< 0.088	< 0.070	0.27	0.022 J	< 0.048	< 0.060	0.058 J	< 0.053	< 0.056	13	0.12
	1,4-Dichlorobenzene	8260B	0.076	mg/kg dry	< 0.15	< 0.15	< 0.080	< 0.22	< 0.072	< 0.055	< 0.10	< 0.088	< 0.070	< 0.044	< 0.061	< 0.048	< 0.060	< 0.16	< 0.053	< 0.056	< 0.14	< 0.089
	4-Isopropyltoluene	8260B	NSA	mg/kg dry	0.043 J	0.13 J	< 0.080	< 0.22	< 0.072	< 0.055	0.028 J	18	0.10	0.022 J	< 0.061	0.014 J	< 0.060	0.15 J	< 0.053	< 0.056	27	0.55
	Benzene	8260B	0.018	mg/kg dry	0.044 J	< 0.062	< 0.032	< 0.087	< 0.029	< 0.022	0.0097 J	< 0.035	< 0.028	0.026	< 0.025	< 0.019	< 0.024	< 0.062	< 0.021	< 0.022	0.045 J	< 0.036
	cis-1,2-Dichloroethene	8260B	0.19	mg/kg dry	< 0.15	< 0.15	< 0.080	< 0.22	< 0.072	< 0.055	< 0.10	< 0.088	< 0.070	< 0.044	< 0.061	< 0.048	< 0.060	< 0.16	< 0.053	< 0.056	< 0.14	0.095
	Ethylbenzene	8260B	5.7	mg/kg dry	0.14 J	0.081 J	< 0.080	< 0.22	< 0.072	< 0.055	0.012 J	0.072 J	< 0.070	0.039 J	0.0068 J	< 0.048	< 0.060	0.088 J	< 0.053	< 0.056	3.2	0.072 J
es	Isopropylbenzene	8260B	3.46	mg/kg dry	< 0.15	0.1 J	0.014 J	< 0.22	< 0.072	< 0.055	< 0.10	< 0.088	< 0.070	0.0066 J	< 0.061	< 0.048	< 0.060	0.03 J	< 0.053	< 0.056	1.6	0.031 J
aţį	Methylene Chloride	8260B	0.017	mg/kg dry	0.054 U	0.057 U	0.032 U	1.6 J	0.23 U	0.015 U	0.51 U	0.032 U	0.13 U	0.016 U	0.014 J	0.019 U	0.047 U	0.054 U	0.061 U	0.043 U	0.4 U	0.3 U
0	m-Xylene & p-Xylene	8260B	1.67	mg/kg dry	0.41	0.12 J	0.016 J	0.048 J	< 0.072	< 0.055	0.061	0.025 J	0.014 J	0.59	0.087	0.012 J	< 0.060	< 0.16	< 0.053	< 0.056	9	0.16
	Naphthalene	8260B	1.14	mg/kg dry	< 0.15	< 0.15	< 0.080	< 0.22	< 0.072	< 0.055	0.067 J	0.05 J	< 0.070	0.14	< 0.061	< 0.048	< 0.060	0.09 J	< 0.053	< 0.056	38	0.36
	n-Butylbenzene	8260B	NSA	mg/kg dry	< 0.15	< 0.15	< 0.080	< 0.22	< 0.072	< 0.055	< 0.10	< 0.088	< 0.070	< 0.044	< 0.061	< 0.048	< 0.060	< 0.16	< 0.053	< 0.056	< 0.14	0.35
	N-Propylbenzene	8260B	NSA	mg/kg dry	0.031 J	0.094 J	< 0.080	< 0.22	< 0.072	< 0.055	< 0.10	0.056 J	< 0.070	0.019 J	< 0.061	< 0.048	< 0.060	< 0.16	< 0.053	< 0.056	4.3	0.053 J
	o-Xylene	8260B	1.67	mg/kg dry	0.17	0.052 J	< 0.080	0.017 J	< 0.072	< 0.055	< 0.10	0.01 J	0.0067 J	0.41	0.081	< 0.048	< 0.060	0.012 J	< 0.053	< 0.056	5.5	0.088 J
	sec-Butylbenzene	8260B	1.17	mg/kg dry	< 0.15	0.41	< 0.080	< 0.22	< 0.072	< 0.055	< 0.10	< 0.088	< 0.070	< 0.044	< 0.061	< 0.048	< 0.060	0.036 J	< 0.053	< 0.056	4.5	0.051 J
	tert-Butylbenzene	8260B	0.85	mg/kg dry	< 0.15	< 0.15	< 0.080	< 0.22	< 0.072	< 0.055	< 0.10	< 0.088	< 0.070	< 0.044	< 0.061	< 0.048	< 0.060	< 0.16	< 0.053	< 0.056	0.16	< 0.089
	Toluene	8260B	4.89	mg/kg dry	0.4	0.057 J	< 0.080	0.04 J	0.013 J	< 0.055	0.2	0.081 J	0.01 J	0.21	0.031 J	< 0.048	< 0.060	0.095 J	< 0.053	< 0.056	0.12 J	0.018 J
	Trichloroethene	8260B	0.0029	mg/kg dry	< 0.059	< 0.062	< 0.032	0.060 J	0.17	0.0011 J	< 0.042	< 0.035	< 0.028	< 0.018	< 0.025	< 0.019	< 0.024	< 0.062	0.00041 J	< 0.022	< 0.057	0.023 J
Notes	:																					

Bold - Detection is above media Screening Levels NSA - No screening level available.



[&]quot; < " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively idenitifed. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate.
R - The data is rejected due to a deficiency in quality control criteria.

^{1,2,4-}Trimethylbenzene and 1,3,5-Trimethylbenzene screening values based on recent suspension of screening levels by IDEQ.

TABLE 3-1
Test Pit Soil Results

Type Analytes Method Level mg/Kg Units	P-3
Diesel Range Organics NWTPH-Dx NSA mg/kg dry x 15.8 23.4 x 16.9 763 2120 1790 x 1790 x 1790 17	09
Diesel Range Organics NWTPH-Dx NSA mg/kg dry 42.2 182 42.3 263 1090 2050	
Heavy Oils NWTPH-Dx NSA mg/kg dry 42.2 182 < 42.3 263 1090 2050 Aroclor 1016 8082 3.9 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Aroclor 1221 8082 0.17 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Aroclor 1232 8082 0.17 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Aroclor 1232 8082 0.17 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Aroclor 1242 8082 0.22 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Aroclor 1248 8082 0.22 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Aroclor 1254 8082 0.22 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Aroclor 1254 8082 0.22 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Aroclor 1260 8082 0.22 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0096 Aroclor 1260 8082 0.22 mg/kg dry < 0.0097 < 0.0096 < 0.0099 < 0.0098 < 0.0097 < 0.0098 Benzo(a)anthracene 8270 SIM 0.15 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0202 0.144 0.0258 Benzo(b)fluoranthene 8270 SIM 0.15 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.00777 < 0.0538 < 0.0155 Benzo(k)fluoranthene 8270 SIM 1.5 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0394 0.236 0.0733 Dibenzo(a,h)anthracene 8270 SIM 1.5 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0394 0.236 0.0733 Dibenzo(a,h)anthracene 8270 SIM 0.02 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0394 0.236 0.0733	
Aroclor 1016 8082 3.9 mg/kg dry <0.0097 <0.0096 <0.0099 <0.0098 <0.0097 <0.0098 Aroclor 1221 8082 0.17 mg/kg dry <0.0097 <0.0096 <0.0099 <0.0098 <0.0099 <0.0098 <0.0097 <0.0098 <0.0097 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0098 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.0099 <0.00	
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Dibenzo(a,h)anthracene 8270 SIM 0.02 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0394 0.236 0.0735 Dibenzo(a,h)anthracene 8270 SIM 0.02 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.00829 < 0.0538 0.0165 Indeno(1,2,3-cd)pyrene 8270 SIM 0.15 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.00725 < 0.0538 0.0155	
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U indentity (1,2,3-cd) pyrene 0270 0110 0.10 mg/kg dry < 0.00+02 < 0.00+03 < 0.00+03 < 0.00+25 < 0.0050 0.0150	
Acenaphthene 8270 SIM 52.3 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.270 0.959 0.111 J	
Anthracene 8270 SIM 1040 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.206 1.24 0.167 J	
Benzo(g,h,i)perylene 8270 SIM 1178 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0104 < 0.0538 0.0217	
Fluoranthene 8270 SIM 364 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0233 0.379 0.0557 J	
ହୁଁ Fluorene 8270 SIM 54.8 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.374 1.39 0.184 J	J
Acenaphthylene 8270 SIM 78 mg/kg dry < 0.00492 < 0.00489 < 0.00451 < 0.00466 < 0.0538 0.0186 J Anthracene 8270 SIM 1040 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.206 1.24 0.167 J Benzo(g,h,i)perylene 8270 SIM 1178 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0104 < 0.0538 0.0217 0.00492 Fluoranthene 8270 SIM 364 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0104 < 0.0538 0.0217 0.00492 Fluoranthene 8270 SIM 54.8 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.0233 0.379 0.0557 J Naphthalene 8270 SIM 1.14 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.374 1.39 0.184 J 0.184 J 0.109 D Phenanthrene 8270 SIM 79 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.114 1.89 0.109 D Phenanthrene 8270 SIM 79 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.664 4.21 0.277 J 0.00492 Pyrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Pyrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Pyrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Pyrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Pyrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00499 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00499 < 0.00451 0.110 1.05 0.275 J 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275 J 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.00492 Fluoranthrene 8270 SIM 359 mg/kg dry < 0.00492 Fluoranthrene 8270 SIM 359 mg/kg	i
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E Pyrene 8270 SIM 359 mg/kg dry < 0.00492 < 0.00489 < 0.00451 0.110 1.05 0.275	
2-Methylnaphthalene 8270 SIM 310 mg/kg dry < 0.00492 < 0.00489 < 0.00451 1.52 14.2 0.459	
Aluminum 6010 / 6020 77000 mg/kg dry 6800 5500 6200 9000 9200 6500 Arsenic 6010 / 6020 0.4 mg/kg dry 17 6.8 7.8 9 7.8 15	
3 0 7	
,	
Barium 6010 / 6020 896 mg/kg dry 47 34 42 90 90 40 Beryllium 6010 / 6020 1.63 mg/kg dry 0.36 0.21 0.27 0.35 0.38 0.29	
Calcium 6010 / 6020 NSA mg/kg dry 25000 2000 1300 1500 1300 1100	
Cadmium 6010 / 6020 1.35 mg/kg dry 0.13 J 0.17 J 0.11 J 0.16 J 0.14 J 0.13 J	
Chromium 6010 / 6020 2135 mg/kg dry 6.2 7.3 7.6 9.9 9.8 7.4	
Cobalt 6010 / 6020 23 mg/kg dry 11 6.1 7 8 7.8 7.9	
⊈ Copper 6010 / 6020 921 mg/kg dry 23 20 21 25 45 23	
SE Copper 6010 / 6020 921 mg/kg dry 23 20 21 25 45 23 Iron 6010 / 6020 5.8 mg/kg dry 16000 11000 12000 13000 12000 12000 Lead 6010 / 6020 49.6 mg/kg dry 9.3 7.4 7.3 12 19 15 Magnesium 6010 / 6020 NSA mg/kg dry 6300 3100 3500 5000 4500 3900 Mangapese 6010 / 6020 223 mg/kg dry 520 270 200 170 160 170)
E Lead 6010 / 6020 49.6 mg/kg dry 9.3 7.4 7.3 12 19 15	
Magnesium 6010 / 6020 NSA mg/kg dry 6300 3100 3500 5000 4500 3900	
1 manganoss 2010/2020 225 mg/ng any 220 210 110 110	
Mercury 7470A / 7471B 0.0051 mg/kg dry 0.013 J 0.017 J 0.015 J < 0.023 < 0.020 0.016 J	J
Nickel 6010 / 6020 59.1 mg/kg dry 17 9.3 9.9 13 13 12 Potassium 6010 / 6020 NSA mg/kg dry 1200 1200 1400 1700 1200 1200	
Potassium 6010 / 6020 NSA mg/kg dry 1200 1200 1400 1700 1200 1200 Selenium 6010 / 6020 2 mg/kg dry 0.068 J 0.055 J 0.073 J 0.16 J 0.14 J 0.13 J	
Silver 6010 / 6020 0.19 mg/kg dry < 1.0 < 1.0 < 1.1 < 1.2 < 1.0 < 1.0	
Solium 6010 / 6020 NSA mg/kg dry 100 UJ 100 UJ 110 UJ 120 UJ 100 UJ 100 UJ	
Thallium 6010 / 6020 1.55 mg/kg dry 0.41 U 0.40 U 0.42 U 0.46 U 0.42 U 0.41 J	
Vanadium 6010 / 6020 2.4 mg/kg dry 10 12 16 23 21 17	
Zinc 6010 / 6020 886 mg/kg dry 26 28 29 36 30 23	

Notes: Bold - Detection is above media Screening Levels

NSA - No screening level available.

				Sample ID	GTP7-2.5- 082809	GTP7-10.0- 082809	GTP7-18- 082809	TS-COMP-1	TS-COMP-2	TS-COMP-3
			Screening	Collection Date	8/28/2009	8/28/2009	8/28/2009	8/28/2009	8/28/2009	8/28/2009
Type	Analytes	Method	Level							
			mg/Kg	Units						
	1-Methylnaphthalene	8270C	22	mg/kg dry	< 0.0032	0.00056 J	0.00031 J	5.5	10	0.78
	2-Methylnaphthalene	8270C	310	mg/kg dry	< 0.0021	0.00067 J	0.00046 J	4.6	9.5	0.38
	2-Methylphenol	8270C	1.8	mg/kg dry	< 0.011	< 0.011	< 0.011	< 0.24	< 0.22	< 1.1
	3 & 4 Methylphenol	8270C	NSA	mg/kg dry	< 0.021	< 0.022	< 0.022	< 0.47	< 0.44	< 2.2
	Acenaphthene	8270C	52	mg/kg dry	< 0.0021	< 0.0022	< 0.0022	0.81	1.5	0.2 J
	Acenaphthylene	8270C	78	mg/kg dry	0.00076 J	0.00083 J	< 0.0022	< 0.047	< 0.044	< 0.22
	Anthracene	8270C	1040	mg/kg dry	< 0.0021	0.0016 J	< 0.0022	0.11	0.28	0.068 J
	Benzo[a]anthracene	8270C	0.15	mg/kg dry	< 0.0027	0.0021 J	< 0.0028	0.049 J	0.1	< 0.27
	Benzo[a]pyrene	8270C	0.015	mg/kg dry	0.0016 J	0.0035	< 0.0033	0.021 J	0.077	< 0.33
	Benzo[b]fluoranthene	8270C	0.15	mg/kg dry	0.0021 J	0.005	< 0.0022	< 0.047	< 0.044	< 0.22
	Benzo[g,h,i]perylene	8270C	1178	mg/kg dry	0.0017 J	0.0033	< 0.0028	< 0.059	0.036 J	< 0.27
S	Benzo[k]fluoranthene	8270C	1.5	mg/kg dry	0.00052 J	0.0018 J	< 0.0028	< 0.059	< 0.055	< 0.27
<u>=</u>	bis(2-ethylhexyl)phthalate	8270C 8270C	11.8 260	mg/kg dry	< 0.27 < 0.16	< 0.27 < 0.16	< 0.28 0.17 UJ	< 5.9 < 3.5	< 5.5 < 3.3	< 27 < 16
<u>a</u>	Butyl benzyl phthalate Benzoic Acid	8270C	260 77	mg/kg dry	< 0.16	< 0.16	< 0.011	< 0.24	< 3.3 < 0.22	< 1.1
.≧	Carbazole	8270C	NSA	mg/kg dry mg/kg dry	0.00059 J	0.001 UJ	< 0.017	< 0.24	< 0.22	< 1.6
Semivolatiles	Chrysene	8270C	15	mg/kg dry	< 0.0027	0.001 03	< 0.0028	0.088	0.26	< 0.27
Ø	Dibenzo(a,h)anthracene	8270C 8270C	0.015	mg/kg dry	< 0.0027	0.0036 0.00079 J	< 0.0028	< 0.095	< 0.087	< 0.27
	Dibenzofuran	8270C	6.1	mg/kg dry	< 0.0043	< 0.011	< 0.0044	< 0.095	< 0.067	< 1.1
	Diethyl phthalate	8270C	27.5	mg/kg dry	0.011 U	0.011 U	0.011 U	< 0.24	< 0.22	< 1.1
	Di-n-butyl phthalate	8270C	31	mg/kg dry	0.011 U	0.011 U	0.011 U	< 0.47	< 0.44	< 2.2
	Di-n-octyl phthalate	8270C	1829	mg/kg dry	< 0.021	< 0.022	< 0.022	< 0.47	0.054 J	< 2.2
	Fluoranthene	8270C	364	mg/kg dry	0.0012 J	0.0034	< 0.0022	0.072	0.54	< 0.22
	Fluorene	8270C	54.8	mg/kg dry	< 0.0021	< 0.0022	< 0.0022	1.2	2.6	0.52
	Indeno[1,2,3-cd]pyrene	8270C	0.15	mg/kg dry	0.0014 J	0.0025 J	< 0.0044	< 0.095	< 0.087	< 0.44
	Naphthalene	8270C	1.14	mg/kg dry	0.0004 J	0.00048 J	0.00039 J	0.19	0.83	< 0.22
	Phenanthrene	8270C	79	mg/kg dry	< 0.0021	0.00087 J	< 0.0022	1.6	4.7	0.47
	Phenol	8270C	7.4	mg/kg dry	< 0.011	< 0.011	< 0.011	< 0.24	< 0.22	< 1.1
	Pyrene	8270C	359	mg/kg dry	0.0015 J	0.0037	0.00039 J	0.13	0.57	0.19 J
	1,2,4-Trimethylbenzene	8260B	67	mg/kg dry	< 0.049	< 0.041	< 0.039	0.048 J	0.13	< 0.041
	1,2-Dichlorobenzene	8260B	5.25	mg/kg dry	< 0.049	< 0.041	< 0.039	0.037 J	0.037	0.015 J
	1,3,5-Trimethylbenzene	8260B	47	mg/kg dry	< 0.049	< 0.041	< 0.039	< 0.060	0.0075 J	< 0.041
	1,4-Dichlorobenzene	8260B	0.076	mg/kg dry	< 0.049	< 0.041	< 0.039	< 0.060	< 0.030	0.0064 J
	4-Isopropyltoluene	8260B	NSA	mg/kg dry	0.0049 J	< 0.041	< 0.039	0.094	0.064	0.014 J
	Benzene	8260B	0.018	mg/kg dry	< 0.020	< 0.017	< 0.016	< 0.024	< 0.012	< 0.017
	cis-1,2-Dichloroethene	8260B	0.19	mg/kg dry	< 0.049	< 0.041	< 0.039	< 0.060	< 0.030	< 0.041
"	Ethylbenzene	8260B	0.071	mg/kg dry	< 0.049	< 0.041	< 0.039	0.07	0.044	< 0.041
Volatiles	Isopropylbenzene	8260B	3.46	mg/kg dry	< 0.049	< 0.041	< 0.039	0.16	0.082	0.069
<u>#</u>	Methylene Chloride	8260B	0.017	mg/kg dry	0.03 U	0.011 U	0.017 U	0.081 U	0.066 U	< 0.041
8	m-Xylene & p-Xylene	8260B	1.67	mg/kg dry	< 0.049	< 0.041	< 0.039	0.014 J	0.017 J	001 J
	Naphthalene	8260B	1.14	mg/kg dry	< 0.049	< 0.041	< 0.039	1.9	2	0.37
	n-Butylbenzene	8260B	NSA	mg/kg dry	< 0.049	< 0.041	< 0.039	0.71	< 0.030	0.61
	N-Propylbenzene	8260B	NSA	mg/kg dry	< 0.049	< 0.041	< 0.039	0.33	0.14	0.11
	o-Xylene	8260B	5300	mg/kg dry	< 0.049	< 0.041	< 0.039	< 0.060	0.02 J	< 0.041
	sec-Butylbenzene	8260B	1.17	mg/kg dry	< 0.049	< 0.041	< 0.039	0.28	0.12	0.29
	tert-Butylbenzene	8260B	0.85	mg/kg dry	< 0.049	< 0.041	< 0.039	0.02 J	0.014 J	0.015 J
	Toluene	8260B	4.89	mg/kg dry	< 0.049	< 0.041	< 0.039	0.0096 J	0.0053 J	< 0.041
	Trichloroethene	8260B	0.0029	mg/kg dry	< 0.020	< 0.017	< 0.016	< 0.024	< 0.012	< 0.017



[&]quot; < " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively idenitifed. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate.

R - The data is rejected due to a deficiency in quality control criteria.

^{1,2,4-}Trimethylbenzene and 1,3,5-Trimethylbenzene screening values based on recent suspension of screening levels by IDEQ.

TABLE 3-2 Monitoring Well and Boring Soil Sample Results

			Screening Level	Sample ID Collection Date	G-BH1-Surf- 082809 8/28/2009	G-BH1-7.5- 082809 8/28/2009	G-BH1-16- 082809 8/28/2009	G-BH2-Surf- 082809 8/28/2009	G-BH2-7.5- 082809 8/28/2009	G-BH2-15- 082809 8/28/2009	G-BH3-Surf- 082709 8/27/2009	G-BH3-7.5- 082709 8/27/2009	G-BH3-15- 082709 8/27/2009	G-BH4-Surf- 082709 8/27/2009	G-BH4-7.5- 082709 8/27/2009	G-BH4-15- 082709 8/27/2009	G-BH5-Surf- 082709 8/27/2009	G-BH5-7.5- 082709 8/27/2009	G-BH5-15- 082709 8/27/2009	G-GA1-21- 082609 8/26/2009	G-GA3-20- 082609 8/26/2009
Type	Analytes	Method	mg/Kg	Units																	
PH	Diesel Range Organics	NWTPH-Dx	NSA	mg/kg dry	37.8	< 113	262	< 11	< 11.5	20.7	< 21.2	12.2	601	< 21.4	2380	19.2	30.1	1060	109	37.1 J	22.9 J
Ξ	Heavy Oils	NWTPH-Dx	NSA	mg/kg dry	349	201	96.4	60.1	< 28.8	50.7	91.1	37.5	345	68.6	1360	<31.3	201	703	170	73.0 J	70.7 J
	Aroclor 1016	8082	3.9	mg/kg dry	< 0.0099	< 0.010	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0098	< 0.0098	< 0.0099	< 0.0099	< 0.010	< 0.0095	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0096
	Aroclor 1221	8082	0.17	mg/kg dry	< 0.0099	< 0.010	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0098	< 0.0098	< 0.0099	< 0.0099	< 0.010	< 0.0095	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0096
S	Aroclor 1232	8082	0.17	mg/kg dry	< 0.0099	< 0.010	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0098	< 0.0098	< 0.0099	< 0.0099	< 0.010	< 0.0095	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0096
Ë	Aroclor 1242	8082	0.22	mg/kg dry	< 0.0099	< 0.010	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0098	< 0.0098	< 0.0099	< 0.0099	< 0.010	< 0.0095	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0096
4	Aroclor 1248	8082	0.22	mg/kg dry	< 0.0099	< 0.010	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0098	< 0.0098	< 0.0099	< 0.0099	< 0.010	< 0.0095	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0096
	Aroclor 1254	8082	0.22	mg/kg dry	< 0.0099	< 0.010	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0098	< 0.0098	< 0.0099	< 0.0099	< 0.010	< 0.0095	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0096
	Aroclor 1260	8082	0.22	mg/kg dry	< 0.0099	< 0.010	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0098	< 0.0098	< 0.0099	< 0.0099	< 0.010	< 0.0095	< 0.0099	< 0.010	< 0.0097	< 0.0099	< 0.0096
	Benzo(a)anthracene	8270 SIM	0.15	mg/kg dry	<0.0048	<0.00452	< 0.00487	0.0059	0.00461	0.0426	< 0.00848	< 0.00485	0.0306	0.0114	0.0778	< 0.00459	< 0.00999	0.0413	0.00595 J	0.00449 UJ	
njc	Benzo(a)pyrene	8270 SIM	0.02	mg/kg dry	<0.0048	<0.00452	< 0.00487	0.0073	0.00512	0.0146	< 0.00848	0.00497	0.0139	0.0129	0.0413	< 0.00459	0.0133	0.0171	< 0.00487	0.00449 UJ	
ege H	Benzo(b)fluoranthene	8270 SIM	0.15	mg/kg dry	<0.0048	<0.00452	< 0.00487	0.0102	0.0138	< 0.0109	< 0.00848	0.00646	< 0.00519	0.0324	0.0471	< 0.00459	0.0257	< 0.0106	< 0.00487	0.00449 UJ	
in (A	Benzo(k)fluoranthene	8270 SIM	1.5	mg/kg dry	<0.0048	<0.00452	< 0.00487	< 0.00476	< 0.00461	< 0.0109	< 0.00848	< 0.00485	0.0208	< 0.00429	< 0.00865	< 0.00459	< 0.00999	< 0.0106	< 0.00487	0.00449 UJ	
arc J	Chrysene	8270 SIM	15	mg/kg dry	<0.0048	<0.00452	< 0.00487	0.0063	0.0102	0.0839	< 0.00848	0.00895	0.0491	0.0100	0.1960	< 0.00459	0.0114	0.0816	0.0146 J		0.00457 UJ
S S	Dibenzo(a,h)anthracene	8270 SIM	0.02	mg/kg dry	<0.0048	<0.00452	< 0.00487	0.0093	< 0.00461	< 0.0109	< 0.00848	< 0.00485	0.0081	0.0048	< 0.00865	< 0.00459	< 0.00999	< 0.0106	< 0.00487	0.00449 UJ	
	Indeno(1,2,3-cd)pyrene	8270 SIM	0.15	mg/kg dry	<0.0048	<0.00452	< 0.00487	0.0083	< 0.00461	0.0109	< 0.00848	< 0.00485	0.0075	0.0067	0.0087	< 0.00459	0.0124	< 0.0106	< 0.00487	0.00449 UJ	
H	Acenaphthene	8270 SIM	52.3	mg/kg dry	<0.0048	<0.00452	0.00584	< 0.00476	< 0.00461	0.3680	< 0.00848	< 0.00485	0.0381	< 0.00429	0.1680	< 0.00459	< 0.00999	0.347 J	0.0271 J	0.00449 UJ	
\mathbf{P}_{A}	Acenaphthylene	8270 SIM	78	mg/kg dry	<0.0048	<0.00452	< 0.00487	< 0.00476	< 0.00461	< 0.0109	< 0.00848	< 0.00485	< 0.00519	< 0.00429	< 0.00865	< 0.00459	< 0.00999	0.0106 UJ	< 0.00487	0.00449 UJ	
nic	Anthracene	8270 SIM	1040	mg/kg dry	<0.0048	<0.00452	< 0.00487	< 0.00476	< 0.00461	< 0.0109	< 0.00848	< 0.00485	0.1080	< 0.00429	0.6150	< 0.00459	< 0.00999	0.315 J	0.0173 J		0.00457 UJ
ag c	Benzo(g,h,i)perylene	8270 SIM	1178	mg/kg dry	<0.0048	<0.00452	< 0.00487	0.0107	0.00563	0.0243	0.0160	0.00597	0.0098	0.0091	0.0211	< 0.00459	0.0200	0.0151	0.00487 J	0.00449 UJ	
ij	Fluoranthene	8270 SIM	364	mg/kg dry	<0.0048	<0.00452	< 0.00487	< 0.00476	0.00922	0.0511	< 0.00848	0.00994	0.0294	0.0076	0.1530	< 0.00459	< 0.00999	0.0826	0.0146 J		0.00457 UJ
ar	Fluorene	8270 SIM	54.8	mg/kg dry	<0.0048	<0.00452	< 0.00487	< 0.00476	< 0.00461	0.5120	< 0.00848	< 0.00485	0.0531	< 0.00429	0.2800	< 0.00459	< 0.00999	0.545	0.0401 J		0.00457 UJ
0	Naphthalene	8270 SIM	1.14	mg/kg dry	<0.0048	<0.00452	0.00908	< 0.00476	0.00768	0.2600	< 0.00848	< 0.00485	< 0.00519	< 0.00429	< 0.00865	< 0.00459	< 0.00999	0.504	0.0541 J		0.00457 UJ
-{on	Phenanthrene	8270 SIM	79 350	mg/kg dry	<0.0048	<0.00452	< 0.00487	< 0.00476	0.00973	0.7860	< 0.00848	0.0104	0.2310	< 0.00429	1.6400	0.000501	< 0.00999	0.802	0.0487 J		0.00457 UJ
Z	Pyrene	8270 SIM	359 22	mg/kg dry	<0.0048	<0.00452	< 0.00487	< 0.00476	0.0164	0.4400	< 0.00848	0.00994	0.1070 0.1490	0.0224	0.1460 1.7400	< 0.00459	0.0238 < 0.00999	0.494	0.0514 J		0.00457 UJ
	1-Methylnaphthalene 2-Methylnaphthalene	8270 SIM 8270 SIM	∠∠ 310	mg/kg dry mg/kg dry	<0.0048 <0.0048	<0.00452 <0.00452	0.0279 0.00779	< 0.00476 < 0.00476	0.00973 0.0159	0.8110 0.5700	< 0.00848 < 0.00848	0.00547 0.00795	0.1490	< 0.00429 < 0.00429	1.7400	< 0.00459 < 0.00459	< 0.00999 < 0.00999	4.04 5.21	0.0769 J 0.0628 J		0.00457 UJ 0.00457 UJ

Notes:

Bold - Detection is above media Screening Levels



NSA - No screening level available.

" < " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively identified. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate.

R - The data is rejected due to a deficiency in quality control criteria.

TABLE 3-6 Groundwater Results

						G-GA1-090509	G-GA1-090509	G-GA2-090209	G-GA3-090309	G-GA3-090309	G-GA4-090209	G-GA4-090209	G-DW01-090209	G-DW01-090209	G-MW5-090309	G-HC1R 090409	G-EW3-090409	G-EW3-090409	G-EW4-090409	G-EMW04-090409	G-EMW04-090409	G-EMW05-090509 G		G-EMW06-090509	
			Screening	Idaho Surface	Collection Date	09/05/09	09/05/09	9/2/2009	9/3/2009	9/3/2009	9/2/2009	9/2/2009	9/2/2009	9/2/2009	9/3/2009	9/4/2009	9/4/2009	9/4/2009	9/4/2009	9/4/2009	9/4/2009	09/05/09	09/05/09	9/5/2009	9/5/2009
			Level	Water Standards*																					
Type	Analytes	Method	ug/L	ug/L	Units																				
H	Diesel Range Organics	NWTPH-Dx	NSA	NSA	ug/L	352 J		< 243	< 243		< 243		< 243		484	992	1850		< 236	< 236		611		546	
F	Heavy Oils	NWTPH-Dx	NSA	NSA	ug/L	472 UJ		< 485	< 485		< 485		< 485		713	637	1600		< 472	< 472		< 472		< 481	
	Aroclor 1016	8082	0.5	0.000064	ug/L	0.047 UJ		< 0.047	< 0.047		< 0.047		N/A		N/A	N/A	N/A		N/A	N/A		N/A		N/A	
	Aroclor 1221	8082	0.0068	0.000064	ug/L	0.047 UJ		0.047 UJ	0.047 UJ		0.047 UJ		N/A		N/A	N/A	N/A		N/A	N/A		N/A		N/A	
œ	Aroclor 1232	8082	0.0068	0.000064	ug/L	0.047 UJ		0.047 UJ	0.047 UJ		0.047 UJ		N/A		N/A	N/A	N/A		N/A	N/A		N/A		N/A	
Ş	Aroclor 1242	8082	0.028	0.000064	ug/L	0.047 UJ		0.047 UJ	0.047 UJ		0.047 UJ		N/A		N/A	N/A	N/A		N/A	N/A		N/A		N/A	
-	Aroclor 1248	8082	0.028	0.000064	ug/L	0.047 UJ		0.047 UJ	0.047 UJ		0.047 UJ		N/A		N/A	N/A	N/A		N/A	N/A		N/A		N/A	
	Aroclor 1254	8082	0.034	0.000064	ug/L	0.047 UJ		0.047 UJ	0.047 UJ		0.047 UJ		N/A		N/A	N/A	N/A		N/A	N/A		N/A		N/A	
	Aroclor 1260	8082	0.028	0.000064	ug/L	0.047 UJ		< 0.047	< 0.047		< 0.047		N/A		N/A	N/A	N/A		N/A	N/A		N/A		N/A	
Ħ	Benzo(a)anthracene	8270 SIM	0.029	0.0038	ug/L	0.0024 J		< 0.0094	< 0.0094		< 0.0094		< 0.0094		0.0081 J	< 0.0094	< 0.0094		< 0.0094	< 0.0094		< 0.0096		0.0040 J	
2	Benzo(a)pyrene	8270 SIM	0.0029	0.0038	ug/L	< 0.019		< 0.019	< 0.019		< 0.019		< 0.019		< 0.019	< 0.019	< 0.019		< 0.019	< 0.019		< 0.019		< 0.019	
Ë	Benzo(b)fluoranthene	8270 SIM	0.029	0.0038	ug/L	< 0.0094		< 0.0094	< 0.0094		< 0.0094		< 0.0094		< 0.0095	< 0.0094	< 0.0094		< 0.0094	< 0.0094		< 0.0096		< 0.0094	
ã	Benzo(k)fluoranthene	8270 SIM	0.29	0.0038	ug/L	< 0.0094		< 0.0094	< 0.0094		< 0.0094		< 0.0094		< 0.0095	< 0.0094	< 0.0094		< 0.0094	< 0.0094		< 0.0096		< 0.0094	
Ą	Chrysene	8270 SIM	2.9	0.0038	ug/L	0.0065 J		< 0.0094	< 0.0094		< 0.0094		< 0.0094		0.011	< 0.0094	0.0023 J		< 0.0094	0.0052 J		0.0024 J		0.0068 J	
ar C	Dibenzo(a,h)anthracene	8270 SIM	0.0029	0.0038	ug/L	< 0.0094		< 0.0094	< 0.0094		< 0.0094		< 0.0094		< 0.0095	< 0.0094	< 0.0094		< 0.0094	< 0.0094		< 0.0096		< 0.0094	
0	Indeno(1,2,3-cd)pyrene	8270 SIM	0.029	0.0038	ug/L	< 0.0094		< 0.0094	< 0.0094		< 0.0094		< 0.0094		< 0.0095	< 0.0094	< 0.0094		< 0.0094	< 0.0094		< 0.0096		< 0.0094	
9	Acenaphthene	8270 SIM	626	670	ug/L	0.20		0.0029 J	0.025		< 0.0094		0.0011 J		0.5	0.21	0.040		0.0094 U	0.049		1.0		1.6	
4	Acenaphthylene	8270 SIM	626	NSA	ug/L	0.042		< 0.0094	0.0050 J		0.0016 J		< 0.0094		0.081	0.027	0.0055 J		< 0.0094	0.0073 J		0.13		0.25	
ĕ	Anthracene	8270 SIM	3,129	8,300	ug/L	0.033		0.0021 J	< 0.0094		0.00083 J		0.0016 J		0.088	0.036	0.0096		0.0094 U	0.017		0.19		0.26	
360	Benzo(g,h,i)perylene	8270 SIM	313	NSA	ug/L	< 0.0094		< 0.0094	< 0.0094		< 0.0094		< 0.0094		0.0021 J	< 0.0094	< 0.0094		< 0.0094	< 0.0094		< 0.0096		< 0.0094	
Æ	Fluoranthene	8270 SIM	417	130	ug/L	0.018		0.0032 J	0.0087 J		< 0.0094		< 0.0094		0.023	0.0094 U	0.014		0.0094 U	0.0094 U		0.048		0.060	
Ę	Fluorene	8270 SIM	417 0.14	1,100	ug/L	0.47 0.039		0.0034 J 0.0062 J	0.019 0.040		0.0020 J 0.0074 J		0.0012 J		0.47	0.12 0.078	0.054		0.0094 U 0.0094 U	0.078 0.042		1.3 2.4		2.3 5.8	
,	Naphthalene Phenanthrene	8270 SIM 8270 SIM	313	NSA NSA	ug/L	0.039		0.0062 J 0.0094 U	0.040		0.0074 J 0.0094 U		< 0.0094 0.0094 U		0.22 0.14	0.078	0.017 0.036		0.0094 U	0.042		1.3		2.0	
ē	Pyrene	8270 SIM	313	830	ug/L ug/L	0.040		0.0094 U	0.0097 U		0.0094 U		< 0.0094		0.064	0.0099	0.033		0.0094 U	0.014		0.055		0.074	
-	1-Methylnaphthalene	8270 SIM	0.14	NSA	ug/L ug/L	0.019		0.0094 U	0.0097 0		0.0094 U		0.0094 U		1.1	0.069	0.035		0.0094 U	0.034		9.7		14	
	2-Methylnaphthalene	8270 SIM	150	NSA	ug/L	< 0.012		0.0037	0.020		0.0034 J		< 0.012		0.094	0.012	0.012 U		< 0.012	0.066		1.6		6.7	
	Aluminum	6010 / 6020	200	NSA	ug/L	< 500		400 U	400 U		71 J		400 U		3700	< 500	< 500	12	< 500	< 500	14	< 500	12	< 500	20
	Arsenic	6010 / 6020	50	50*	ug/L	6.3	9.6	< 2.0	0.91 J		< 2.0		< 2.0		10	< 2.0	37	<2.0	< 2.0	15	17	52	63	23	28
	Antimony	6010 / 6020	6	5.6	ug/L	0.78 J		< 2.0	1.5 J		2.8		1.8 J		1.5 J	1.4 J	0.95 J	0.9	0.74 J	0.62 J	2.2	< 2.0	1.9	< 2.0	1.8
	Barium	6010 / 6020	2000	NSA	ug/L	94		77	38		25		19		55	8.1	97	25	23	62	61	57	59	45	44
	Beryllium	6010 / 6020	4	NSA	ug/L	< 2.0		< 2.0	< 2.0		< 2.0		< 2.0		< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	<2.0	< 2.0	<2.0	< 2.0	<2.0
	Calcium	6010 / 6020	NSA	NSA	ug/L	70000		27000	21000		34000		38000		24000	12000	61000	29000	29000	69000	69000	34000	35000	36000	34000
	Cadmium	6010 / 6020	5	0.6	ug/L	< 2.0		< 2.0	< 2.0		< 2.0		< 2.0		< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	<2.0	< 2.0	<2.0	< 2.0	<2.0
	Chromium	6010 / 6020	100	74	ug/L	< 2.0		0.71 J	0.38 J		0.62 J		< 2.0		4.3	0.52 J	< 2.0	0.6	< 2.0	< 2.0	0.7	< 2.0	0.8	< 2.0	1
	Cobalt	6010 / 6020	11	NSA	ug/L	1.2 J		0.7 J	0.38 J		1.3 J		< 2.0		3.2	< 2.0	1.1 J	0.82	0.45 J	0.6 J	1.7	0.42 J	1.4	< 2.0	1.3
2	Copper	6010 / 6020	1000	11	ug/L	1.3 J		2.6 J	1.6 J		3.7 J		2 J		18	0.82 J	0.83 J	0.68	0.84 J	0.81 J	0.4	0.77 J	0.22	0.64 J	0.21
æ	Iron	6010 / 6020	300	NSA	ug/L	7800	8000	65 J	53 J		< 200		8,800	1,100	10,000	200	38,000	5,100	2,300	20,000	19,000	19,000	19,000	12,000	11,000
Σ	Lead	6010 / 6020	15	2.5	ug/L	< 2.0		0.18 J	< 2.0		< 2.0		0.3 J		12	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	<2.0	< 2.0	<2.0	< 2.0	<2.0
ta	Magnesium	6010 / 6020	NSA	NSA	ug/L	11000		6600	3300		9900		11000		8000	2500	8700	6400	8000	11000	11000	6900	6800	7800	7500
ř	Manganese	6010 / 6020	50	NSA	ug/L	2000		250	440	470	180	180	220		1,400	8.5 J	3800	210	180	1,400	1,300	2,200	2,300	1,000	980
	Mercury	7470A / 7471B	1	NSA	ug/L	< 0.2		< 0.02	< 0.02		< 0.02		< 0.02		0.073 J	< 0.2	< 0.2	<0.20	0.12 J	0.074 J	<0.20	0.079 J	<0.20	0.12 J	<0.20
	Nickel	6010 / 6020	209	52	ug/L	2.0 J		2.4	2.4		2.7		1.4 J		5.7	0.44 J	1.4 J	0.9	1.2 J	1.3 J	1.3	0.85 J	0.44	0.73 J	0.42
	Potassium	6010 / 6020	NSA	NSA	ug/L	3400		2300 J	2400 J		3200 J		1300 J		1600 J	740 J	2900 J	1100	900 J	3200 J	3200	1500 J	1600	1400 J	1400
	Selenium	6010 / 6020	50	5	ug/L	< 2.0		< 2.0	< 2.0		< 2.0		1 J		< 2.0	< 2.0	< 2.0	0.5	< 2.0	< 2.0	0.9	< 2.0	0.5	< 2.0	<2.0
	Silver	6010 / 6020	52 NEA	3.4	ug/L	< 2.0		< 2.0	< 2.0		< 2.0		< 2.0		< 2.0	< 2.0	< 2.0	<2.0	< 2.0	< 2.0	<2.0	< 2.0	<2.0	< 2.0	<2.0
	Sodium	6010 / 6020	NSA	NSA 0.24	ug/L	3500		2800 J+	2000 U		2800 J+		2400 J+		2700 J+	1100 J	2,400	2,200 0.5	2,500	3,300	3,200	2,400	2,300	2,600	2,600 0.92
	Thallium	6010 / 6020	180	0.24 NS A	ug/L	< 4.0 < 2.0		< 4.0 < 2.0	< 4.0 0.75 J		4 U < 2.0		4 U		4.0 U 5.7	< 4.0	< 4.0	0.5 1.6	< 4.0	< 4.0 < 2.0	1.4 2.0	< 4.0 < 2.0	1.1 3.1	< 4.0 < 2.0	0.92 3.1
	Vanadium	6010 / 6020 6010 / 6020	3129	NSA 120	ug/L ug/L	< 2.0 < 7.0		< 2.0 2.7 J	0.75 J 2.5 J		< 2.0 3.1 J		< 2.0 240	84	28	< 2.0 < 7.0	< 2.0 < 7.0	32.000	< 2.0 1.200	< 2.0 < 7.0	27.0	< 2.0 < 7.0	4.0	< 2.0 < 7.0	5.6
	Zinc	0010 / 0020	3129	120	ug/L	< 1.0		2.1 J	2.0 J		3. I J		240	04	20	< 1.0	< 1.0	32,000	1,200	< 1.0	21.0	< 1.0	4.0	< 1.0	0.0

Notes:

Shading indicates dissolved metals analysis.

Bold - Detection is above either the Screening Level or the Idaho Surface Water Standards.

NSA - No screening level available.

N/A - This sample was not analyzed for this constituent.

* < " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively identified. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate.

R - The data is rejected due to a deficiency in quality control criteria.

* Adapted from the Idaho Water Quality Standards IDAPA 58.01.02. The lowest value for each constituent was referenced. Idaho will be adopting a 10 ug/L standard for arsenic in 2010.



TABLE 3-7 LNAPL Results

			Screening	Sample ID	G-MW11FP-090109	G-P1010FP-090409	G-HC4FP-111909	G-RS5FP-090509	G-RS4FP-090509	G-RS3FP-090509	G-RS3aFP-090509
			Level	Collection Date	9/1/2009	9/4/2009	11/19/2009	9/5/2009	9/5/2009	9/5/2009	9/5/2009
	Analytes	Method	mg/kg	Units							
TPH (mg/Kg	Diesel Range Organics	NWTPH-Dx	NSA	mg/kg	202000	201000	581000	233000	386000	154000	80700
٦Ę	Heavy Oils	NWTPH-Dx	NSA	mg/kg	321000	120000	255000	265000	306000	149000	67500
_	Aroclor 1016	8082	NSA	mg/kg	< 0.43	0.943 UJ	<1.0	0.962 UJ	0.980 UJ	0.877 UJ	< 2.38
Kg)	Aroclor 1221	8082	NSA	mg/kg	< 0.43	0.943 UJ	<1.0	0.962 UJ	0.980 UJ	0.877 UJ	< 2.38
<u> </u>	Aroclor 1232	8082	NSA	mg/kg	< 0.43	0.943 UJ	<1.0	0.962 UJ	0.980 UJ	0.877 UJ	< 2.38
٤	Aroclor 1242	8082	NSA	mg/kg	< 0.43	0.943 UJ	<1.0	0.962 UJ	0.980 UJ	0.877 UJ	< 2.38
PCBs (mg/Kg)	Aroclor 1248	8082	NSA	mg/kg	< 0.43	0.943 UJ	<1.0	0.962 UJ	0.980 UJ	0.877 UJ	< 2.38
ည	Aroclor 1254	8082	NSA	mg/kg	< 0.43	0.943 UJ	<1.0	0.962 UJ	0.980 UJ	0.877 UJ	< 2.38
	Aroclor 1260	8082	NSA	mg/kg	0.37 J	0.943 UJ	<1.0	0.962 UJ	0.980 UJ	0.877 UJ	< 2.38
o	Benzo(a)anthracene	8270 SIM	NSA	mg/kg	40000	4.42	22.00	19.2 J	3.06 UJ	10.40	3.27
ž	Benzo(a)pyrene	8270 SIM	NSA	mg/kg	25000	4.62	<15	8.57	11.0 J	3.96	< 2.73
ğΞ	Benzo(b)fluoranthene	8270 SIM	NSA	mg/kg	20000	2.88	<15	3.06	3.06 UJ	< 3.12	< 2.73
Carcinogenic PAH	Benzo(k)fluoranthene	8270 SIM	NSA	mg/kg	3000 J	2.88	<15	3.06	3.06 UJ	< 3.12	< 2.73
arc	Chrysene	8270 SIM 8270 SIM	NSA	mg/kg	71000	9.04	30.00	45.7 J	50.6 J	23.1	7.27 2.73
Ü	Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	8270 SIM 8270 SIM	NSA NSA	mg/kg	< 32000 4700 J	9.62 10.2	<15 <15	4.29 4.49	4.90 J 3.88 J	< 3.12 < 3.12	2.73 2.91
	Acenaphthene	8270 SIM	NSA	mg/kg	42000	29.2	372	33.1	3.66 J 100	30.2	16.5
<u>.0</u>	Acenaphthylene	8270 SIM	NSA	mg/kg mg/kg	< 16000	2.88	<15	3.06	3.06 UJ	< 3.12	< 2.73
Non- Carcinogenic PAH (mg/Kg)	Anthracene	8270 SIM	NSA	mg/kg	26000	33.5	209	96.9	120	50.4	20.2
ğξ	Benzo(q,h,i)perylene	8270 SIM	NSA	mg/kg	6700 J	14.0	<15	9.59	12.2 J	3.12	3.64
ng Gi	Fluoranthene	8270 SIM	NSA	mg/kg	69000	8.27	56	9.18	15.1	9.38	4.00
z ä	Fluorene	8270 SIM	NSA	mg/kg	68000	45.6	316	86.3	178 J	45.6	25.3
کٍ₹	Naphthalene	8270 SIM	NSA	mg/kg	< 16000	13.3	252	3.06	3.06 UJ	7.29	6.91
<u> </u>	Phenanthrene	8270 SIM	NSA	mg/kg	140000	88.8	889	205	292	84.0	47.8
_	Pyrene	8270 SIM	NSA	mg/kg	110000	22.7	128	118	161 J	55.8	15.3
	1-Methylnaphthalene	8270 SIM	NSA	mg/kg	52000	114	1350	15.3	328	63.1	47.6
	2-Methylnaphthalene	8270 SIM	NSA	mg/kg	16000 J	48.3	1870	3.06	35.3	< 3.12	45.6
	Aluminum	6010 / 6020	NSA	mg/kg	110 UJ	1500	39	360	340	120 J	85 J
	Arsenic	6010 / 6020	NSA	mg/kg	2.2 J	4.8 J	2	4.6 J	4.4 J	1.7 J	1.2 J
	Antimony	6010 / 6020	NSA	mg/kg	< 11	< 12	<8.6	< 12	< 12	< 13	< 11
	Barium	6010 / 6020	NSA	mg/kg	2.4	24	1.5	7.4	5.9	3.4	2.2
	Beryllium	6010 / 6020	NSA	mg/kg	< 0.88	0.055 J	<0.72	< 1.0	< 0.97	< 1.1	< 0.93
	Calcium	6010 / 6020	NSA	mg/kg	43 J	570	21	470	340	340	280
	Cadmium	6010 / 6020	NSA	mg/kg	< 1.8	< 2	<1.4	< 2	< 1.9	< 2.2	< 1.9
(B	Chromium Cobalt	6010 / 6020 6010 / 6020	NSA	mg/kg	13 J 0.48 J	1.8 J	1.1 0.13	2.1 J 0.65 J	2.0 J 0.56 J	0.47 J	< 4.8
9	Copper	6010 / 6020	NSA NSA	mg/kg mg/kg	0.46 J 38 J	1.8 J 12	2.2	69	0.56 J 71	0.28 J 12	< 1.9 4.6
Ē	Iron	6010 / 6020	NSA	mg/kg	120 J	2300	42	390	170	57	130
2	Lead	6010 / 6020	NSA	mg/kg	15	3.2 J	<4.3	24	27	< 6.7	< 5.6
eta	Magnesium	6010 / 6020	NSA	mg/kg	190 U	800	6.7	220 U	210 U	250 U	200 U
Total Metals (mg/Kg)	Manganese	6010 / 6020	NSA	mg/kg	1.6 J	31	0.78	8.7	2.9 J	1.4 J	1.2 J
ota	Mercury	7470A /	NSA	mg/kg	0.018	< 0.036	<0.018	0.034 J	0.034 J	0.019 J	0.013 J
ĭ	Nickel	6010 / 6020	NSA	mg/kg	31 J	9.7	11	39	34	20	4.6
	Potassium	6010 / 6020	NSA	mg/kg	580 UJ	290 J	<480	180 J	< 640	< 740	< 610
	Selenium	6010 / 6020	NSA	mg/kg	< 18	< 20	<14	1.6 J	0.63 J	< 22	< 19
	Silver	6010 / 6020	NSA	mg/kg	< 3.5	< 4	<2.9	< 4.1	< 3.9	< 4.5	< 3.7
	Sodium	6010 / 6020	NSA	mg/kg	< 350	780 J	<290	850	970	1100	1100
	Thallium	6010 / 6020	NSA	mg/kg	18 U	< 20	<14	< 20	< 19	< 22	< 19
	Vanadium	6010 / 6020	NSA	mg/kg	26 J	8.5	15	110	140	16	4.1
	Zinc	6010 / 6020	NSA	mg/kg	6.9 J	21	<7.2	67	15	12	5.6 J

Notes:

Bold - Detection is above media Screening Levels NSA - No screening level available.



[&]quot;< " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively idenitifed. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate. R - The data is rejected due to a deficiency in quality control criteria.

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TABLE 3-9 Near Shore Sediment Results

				Sample ID	G-RS1SED-0- 090709	G-RS1SED-4- 090709	G-RS2SED-0- 090709	G-RS2SED-3- 090709	G-RS3SED-0- 090709	G-RS3SED-4- 090709	G-RS4SED-0- 090709	G-RS4SED-4- 090709	G-RS-5SED-0- 090809	G-RS5SED-4- 090709	G-RS6SED-0- 090709	G-RS6SED-3- 090709	G-RS7SED-0- 090709	G-RS7SED-4- 090709	G-RS8SED-0- 090709	G-RS8SED-3- 090709
			Screening	Collection Date	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/8/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009
(ID)	A 7.4	3.6.4. 1	Level																	
Type	Analytes	Method	mg/Kg	Units																
H	Diesel Range Organics	NWTPH-Dx	NSA	mg/kg dry	ND	66.3	74.3	62.4	194	403	8830	39.6	24.3	73.1	22.4	25.3	< 14.9	< 11.8	< 14.7	< 12.5
E	Heavy Oils	NWTPH-Dx	NSA	mg/kg dry	89	464	336	272	492	588	6980	164	112	178	140	126	< 37.3	< 29.6	< 36.7	< 31.3
	Aroclor 1016	8082	0.026	mg/kg dry	0.0097 U	0.0097 U	0.0098 U	0.0096 U	<0.0096	< 0.010	<0.0097	< 0.0096	<0.010	< 0.010	<0.010	< 0.0098	0.0095 U	0.0099 U	0.0099 U	0.0095 U
	Aroclor 1221	8082	0.026	mg/kg dry	0.0097 U	0.0097 U	0.0098 U	0.0096 U	< 0.0096	< 0.010	<0.0097	<0.0096	< 0.010	< 0.010	<0.010	< 0.0098	0.0095 U	0.0099 U	0.0099 U	0.0095 U
Se	Aroclor 1232	8082	0.026	mg/kg dry	0.0097 U	0.0097 U	0.0098 U	0.0096 U	<0.0096	< 0.010	<0.0097	<0.0096	<0.010	< 0.010	<0.010	< 0.0098	0.0095 U	0.0099 U	0.0099 U	0.0095 U
2	Aroclor 1242	8082	0.026	mg/kg dry	0.0097 U	0.0097 U	0.0098 U	0.0096 U	<0.0096	< 0.010	<0.0097	<0.0096	<0.010	< 0.010	<0.010	< 0.0098	0.0095 U	0.0099 U	0.0099 U	0.0095 U
	Aroclor 1248 Aroclor 1254	8082 8082	0.026 0.026	mg/kg dry mg/kg dry	0.0097 U 0.0097 U	0.0097 U 0.0097 U	0.0098 U 0.0098 U	0.0096 U 0.0096 U	<0.0096 <0.0096	< 0.010 < 0.010	<0.0097 <0.0097	<0.0096 <0.0096	<0.010 <0.010	< 0.010 < 0.010	<0.010 <0.010	< 0.0098 < 0.0098	0.0095 U 0.0095 U	0.0099 U 0.0099 U	0.0099 U 0.0099 U	0.0095 U 0.0095 U
	Aroclor 1260	8082	0.026	mg/kg dry	0.0097 U	0.0097 0	0.0098 U	0.0096 U	<0.0096	< 0.010	<0.0097	<0.0096	<0.010	< 0.010	<0.010	< 0.0098	0.0095 U	0.0099 U	0.0099 U	0.0095 U
=	Benzo(a)anthracene	8270 SIM	0.016	mg/kg dry	0.00494 UJ	0.0085 R	0.00498 UJ	0.00841 R	0.00471 R	0.0709 J	0.00947 R	< 0.00477	0.00586	0.0326	< 0.00462	< 0.00499	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
₹	Benzo(a)pyrene	8270 SIM	0.032	mg/kg dry	0.00494 UJ	0.0085 R	0.00498 UJ	0.00841 R	0.0101 J	0.0333 J	0.0455 J	< 0.00477	0.00521	0.0774	< 0.00462	0.00499 R	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
ic	Benzo(b)fluoranthene	8270 SIM	0.027	mg/kg dry	0.0155 J	0.0147 J	0.00498 UJ	0.00841 R	0.00471 R	0.0388 J	0.00947 R	< 0.00477	< 0.00488	0.143	< 0.00462	0.00499 R	0.0053 J	0.00473 UJ	0.00489 UJ	0.00417 UJ
ger	Benzo(k)fluoranthene	8270 SIM	0.027	mg/kg dry	0.00494 UJ	0.0085 R	0.00498 UJ	0.00841 R	0.00471 R	0.00831 R	0.0467 J	< 0.00477	0.01040	< 0.00498	< 0.00462	0.00499 R	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
ii	Chrysene	8270 SIM	0.027	mg/kg dry	0.00941 J	0.00907 J	0.00498 UJ	0.00841 R	0.0101 J	0.129 J	0.0455 J	< 0.00477	0.00976	0.0625	< 0.00462	< 0.00499	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
a.	Dibenzo(a,h)anthracene	8270 SIM 8270 SIM	0.006 0.017	mg/kg dry	0.00494 UJ 0.00494 UJ	0.00907 J 0.0113 J	0.00745 J 0.00881 J	0.00897 J 0.00841 R	0.0151 J 0.0182 J	0.0111 J 0.0144 J	0.0152 J 0.0114 J	0.00796 0.00849	< 0.00488 < 0.00488	0.037 0.0746	< 0.00462 < 0.00462	0.00499 R 0.00499 R	0.00497 UJ 0.00497 UJ	0.00473 UJ 0.00473 UJ	0.00489 UJ 0.00489 UJ	0.00417 UJ 0.00417 UJ
_	Indeno(1,2,3-cd)pyrene Acenaphthene	8270 SIM	0.017	mg/kg dry mg/kg dry	0.00494 UJ	0.0085 UJ	0.00498 UJ	0.00841 K 0.00841 UJ	0.0162 3	0.1030	< 0.00947	< 0.00477	< 0.00488	0.0748	< 0.00462	< 0.00499 K < 0.00499	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
¥.	Acenaphthylene	8270 SIM	0.0059	mg/kg dry	0.00494 UJ	0.0085 UJ	0.00498 UJ	0.00841 UJ	< 0.00471	< 0.00831	< 0.00947	< 0.00477	< 0.00488	< 0.00498	< 0.00462	< 0.00499	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
ic F	Anthracene	8270 SIM	0.01	mg/kg dry	0.00494 UJ	0.0085 UJ	0.00498 UJ	0.00841 UJ	0.00817	0.1200	< 0.00947	< 0.00477	< 0.00488	0.0122	< 0.00462	< 0.00499	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
gen	Benzo(g,h,i)perylene	8270 SIM	0.17	mg/kg dry	0.00672 J	0.0193 J	0.0115 J	0.0112 J	0.0277 J	0.0299 J	0.0101 J	0.0101	0.00586	0.106	< 0.00462	0.00499 R	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
ii	Fluoranthene	8270 SIM	0.031	mg/kg dry	0.00874 J	0.0085 UJ	0.00498 UJ	0.00841 UJ	< 0.00471	0.0521	0.0189 J	< 0.00477	0.00716	0.0293	0.00616	< 0.00499	0.0139 J	0.00473 UJ	0.00489 UJ	0.00417 UJ
arc	Fluorene	8270 SIM	0.01	mg/kg dry	0.00494 UJ	0.0085 UJ	0.00498 UJ	0.00841 UJ	0.0151	0.0998	< 0.00947	< 0.00477	< 0.00488	0.084	< 0.00462	< 0.00499	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
	Naphthalene	8270 SIM	0.015	mg/kg dry	0.00494 UJ 0.00494 UJ	0.0085 UJ 0.0085 UJ	0.00498 UJ 0.00498 UJ	0.00841 UJ 0.00841 UJ	<0.00471	< 0.00831 0.3540	< 0.00947	< 0.00477 < 0.00477	< 0.00488 < 0.00488	0.0122 0.0802	< 0.00462	< 0.00499 < 0.00499	0.00497 UJ 0.00497 UJ	0.00473 UJ 0.00473 UJ	0.00489 UJ 0.00489 UJ	0.00417 UJ 0.00417 UJ
9	Phenanthrene Pyrene	8270 SIM 8270 SIM	0.019 0.044	mg/kg dry mg/kg dry	0.00494 03	0.0085 UJ 0.0204 J	0.00498 UJ	0.00841 0J 0.00841 R	0.0214 0.027 J	0.3540 0.44 J	0.0202 J 0.096 J	0.00636	< 0.00488 0.01430	0.129	< 0.00462 0.00555	< 0.00499 < 0.00499	0.00497 UJ 0.0119 J	0.00473 UJ	0.00489 UJ	0.00417 UJ
	1-Methylnaphthalene	8270 SIM	NSA	mg/kg dry	0.00494 UJ	0.02543 0.0085 UJ	0.00498 UJ	0.00841 UJ	0.027 5	0.0964	< 0.00947	< 0.00477	< 0.00488	0.101	< 0.00462	< 0.00499	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
	2-Methylnaphthalene	8270 SIM	0.02	mg/kg dry	0.00494 UJ	0.0085 UJ	0.00498 UJ	0.00841 UJ	<0.00471	< 0.00831	< 0.00947	< 0.00477	< 0.00488	< 0.00498	< 0.00462	< 0.00499	0.00497 UJ	0.00473 UJ	0.00489 UJ	0.00417 UJ
	Aluminum	6010 / 6020	25500	mg/kg dry	5300	4700	6700	4100	5100	5000	4600	3900	6900	5000	6900	6500	6900	3300	7000	5400
	Arsenic	6010 / 6020	5.9	mg/kg dry	5.8	7.3	7.6	6.2	10	9.9	16	16	8.5	28	7.1	9.9	7	7.5	6.4	5.4
	Antimony	6010 / 6020	2	mg/kg dry	1.3	3.5	1.9	5.5	2.3	1.3	24	1.1	1.2	8.3	0.85	0.93	0.68	210	0.64	0.75
	Barium	6010 / 6020 6010 / 6020	NSA NSA	mg/kg dry	31 0.24	34 0.26	46 0.29	24 0.16 J	32 0.26	38 0.24	35 0.24 J	24 0.17 J	39 0.28	37 0.26	36 0.27	49 0.26 J	38 0.28	16 0.13 J	37 0.31	27 0.21 J
	Beryllium Calcium	6010 / 6020	NSA	mg/kg dry mg/kg dry	830	1300	8500	2700	1400	1500	1100	850	1300	970	1000	890	1200	590	1100	1200
	Cadmium	6010 / 6020	0.58	mg/kg dry	0.28 U	0.23 U	0.26 U	0.24 U	0.26 U	0.22 U	< 0.24	0.23 U	0.28 U	0.24 U	0.25 U	0.28 U	0.27 U	< 0.23	0.29 U	0.24 U
	Chromium	6010 / 6020	26	mg/kg dry	6.7	7.1	8.2	5.3	6.2	6.2	6.1	5	7.8	7.8	7.8	7.1	7.7	5.9	7.8	6.3
	Cobalt	6010 / 6020	50	mg/kg dry	5.2	6.4	7.1	5	6.8	8.4	6.3	4.1	6.8	5	6.7	7.2	7.4	4.8	7.6	7.7
<u>v</u>	Copper	6010 / 6020	16	mg/kg dry	23	50	58	18	17	23	23	17	22	28	24	22	20	36	21	18
<u>et</u>	Iron	6010 / 6020	20000	mg/kg dry	13000	13000	14000	12000	14000	16000	13000	12000	16000	12000	16000 J	15000	14000	11000	15000	13000
_	Lead	6010 / 6020	31	mg/kg dry	18	45	17	24	11	20	48	12	13	23	14	11	8.2	600	7.7	8.2
ğ	Magnesium Manganese	6010 / 6020 6010 / 6020	NSA 460	mg/kg dry mg/kg dry	3300 140	3000 170	5300 260	3600 150	3300 170	3000 420	2800 91	2300 180	4100 210	2800 91	4300 160	4000 160	4400 87	2200 110	4400 200	3400 190
	Mercury	7470A / 7471B	0.17	mg/kg dry	< 0.028	0.061	0.021 J	< 0.024	0.0085 J	0.0099 J	< 0.022	0.02 J	< 0.025	0.013 J	0.020 J	< 0.025	< 0.026	< 0.024	0.026 J	< 0.022
	Nickel	6010 / 6020	16	mg/kg dry	9	9.9	12	8.6	13	10	9.2	8.9	12	8.8	12	13	10	7.6	11	9.4
	Potassium	6010 / 6020	NSA	mg/kg dry	900	760	1200	690	1000	880	750	590	1200	980	1100	1100	1400	560	1300	910
	Selenium	6010 / 6020	2	mg/kg dry	0.70 U	0.57 U	0.66 U	0.61 U	0.64 U	0.56 U	0.59 U	0.57 U	0.70 U	0.59 U	0.63 U	0.71 U	0.68 U	0.57 U	0.73 U	0.59 U
	Silver	6010 / 6020	0.5	mg/kg dry	< 1.4	< 1.1	< 1.3	< 1.2	< 1.3	< 1.1	< 1.2	< 1.1	< 1.4	< 1.2	< 1.3	< 1.4	< 1.4	0.053 J	< 1.5	< 1.2
	Sodium	6010 / 6020	NSA	mg/kg dry	<140	< 110	< 130	< 120	< 130	< 110	< 120	< 110	< 140	< 120 0.48 U	< 130	< 140	< 140	< 110	< 150	< 120
	Thallium Vanadium	6010 / 6020 6010 / 6020	NSA NSA	mg/kg dry mg/kg dry	0.56 U 10	0.46 U 14	0.52 U 16	0.49 U 14	0.52 U 15	0.45 U 17	0.48 U 18	0.46 U 12	0.56 U 16	0.48 U 15	0.51 U 17	0.57 U 15	0.54 U 17	0.46 U 9.6	0.59 U 18	0.47 U 17
	Zinc	6010 / 6020	98	mg/kg dry	26	34	28	22	32	31	22	21	30	70	31	30	31	9.6 24	28	24
Notes		5510 / 5520	70	mg kg uij	20	0.1	20			01			00	. •	01	00	0.		20	

Screening level for PCBs is for total PCB concentration.

Bold - Detection is above media Screening Levels

NSA - No screening level available.

" < " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively identitifed. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate.

R - The data is rejected due to a deficiency in quality control criteria.



TABLE 3-9 Near Shore Sediment Results

				Sample ID	G-RS1SED-0- 090709	G-RS1SED-4- 090709	G-RS2SED-0- 090709	G-RS2SED-3- 090709	G-RS3SED-0- 090709	G-RS3SED-4- 090709	G-RS4SED-0- 090709	G-RS4SED-4- 090709	G-RS-5SED-0- 090809	G-RS5SED-4- 090709	G-RS6SED-0- 090709	G-RS6SED-3- 090709	G-RS7SED-0- 090709	G-RS7SED-4- 090709	G-RS8SED-0- 090709	G-RS8SED-3- 090709
			Screening	Collection Date	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/8/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009	9/7/2009
			Level																	
Type	Analytes	Method	mg/Kg	Units																
	1-Methylnaphthalene	8270C	NSA	mg/kg dry	< 0.043	0.0086 J	0.0098	0.0056	0.05	0.11	5	0.0033 J	0.0063	0.087	0.0015 J	0.00097 J	< 0.0043	< 0.0036	< 0.0044	0.00027 J
	2,6-Dinitrotoluene	8270C	NSA	mg/kg dry	< 0.029	< 0.024	< 0.014	< 0.013	< 0.14	< 0.12	< 0.12	< 0.11	< 0.014	< 0.012	< 0.013	0.0031 J	< 0.014	< 0.012	< 0.015	< 0.012
	2-Chloronaphthalene	8270C	NSA	mg/kg dry	< 0.14	< 0.12	0.0013 J	0.0037	< 0.027	< 0.023	< 0.024	< 0.023	< 0.0028	< 0.0024	< 0.0026	< 0.0029	< 0.0029	< 0.0024	< 0.0029	< 0.0023
	2-Methylnaphthalene 3 & 4 Methylphenol	8270C 8270C	0.020 NSA	mg/kg dry	0.0069 J < 0.29	0.021 J < 0.24	0.019 0.0023 J	0.011 < 0.025	0.0055 J < 0.27	0.016 J < 0.23	0.47 < 0.24	0.0048 J < 0.23	0.013 0.0022	< 0.0024 < 0.024	0.0028 < 0.026	0.002 J 0.002 J	0.00044 J 0.0071 J	0.00035 J < 0.024	< 0.0029 < 0.029	0.00071 J < 0.023
	Acenaphthene	8270C 8270C	0.0067	mg/kg dry mg/kg dry	< 0.029	< 0.024	0.0025 J 0.0016 J	< 0.025	0.032	0.18	1.9	< 0.23	0.0022	0.041	< 0.026	< 0.002 3	< 0.0029	< 0.0024	< 0.029	< 0.023
	Acenaphthylene	8270C	0.0059	mg/kg dry	< 0.029	< 0.024	0.0025 J	0.0046	< 0.027	< 0.023	< 0.024	< 0.023	0.0025	< 0.0024	0.00098 J	< 0.0029	< 0.0029	< 0.0024	< 0.0029	< 0.0023
	Anthracene	8270C	0.057	mg/kg dry	0.0078 J	0.014 J	0.0034	0.0057	0.017 J	0.1	0.23	< 0.023	0.0036	0.01	0.002 J	0.00081 J	0.0012 J	0.00036 J	< 0.0029	< 0.0023
	Benzo(a)anthracene Benzo(a)pyrene	8270C 8270C	0.016 0.032	mg/kg dry mg/kg dry	0.04 0.0066 J	0.012 J < 0.036	0.0034 J 0.0052	0.0029 J 0.0064	< 0.034 < 0.041	0.1 0.097	0.48 < 0.035	< 0.028 < 0.034	0.0089 0.0074	0.0059 0.0069	0.0058 0.0062	0.00042 J 0.00098 J	0.0022 J < 0.0043	0.00066 J < 0.0036	0.00087 J < 0.0044	< 0.0029 < 0.0035
	Benzo(b)fluoranthene	8270C	0.027	mg/kg dry	< 0.029	< 0.024	0.0069	0.013	< 0.027	0.078	< 0.024	< 0.023	0.018	0.0052	0.01	0.0015 J	0.0024 J	< 0.0024	< 0.0029	< 0.0023
	Benzo(g,h,i)perylene	8270C	0.17	mg/kg dry	< 0.036	0.022 J	0.0074	0.015	0.028 J	0.038	0.12	< 0.028	0.009	0.005	0.0049	0.0023 J	< 0.0036	< 0.0030	< 0.0037	< 0.0029
88	Benzo(k)fluoranthene	8270C	0.027	mg/kg dry	< 0.036	< 0.030	0.0016 J	0.0015 J	< 0.034	0.027 J	< 0.030	< 0.028	0.0037	< 0.0030	0.0022 J	0.00061 J	< 0.0036	< 0.0030	< 0.0037	< 0.0029
atile	Benzoic acid Benzyl alcohol	8270C 8270C	0.65 NSA	mg/kg dry mg/kg dry	< 3.6 < 0.14	< 3.0 < 0.12	0.099 J < 0.014	0.12 J < 0.013	< 3.4 < 0.14	< 2.9 < 0.12	< 3.0 < 0.12	< 2.8 < 0.11	0.11 < 0.014	< 0.30 < 0.012	< 0.33 < 0.013	< 0.37 < 0.015	< 0.36 < 0.014	< 0.30 < 0.012	< 0.37 0.0017 J	< 0.29 < 0.012
ivol	Bis(2-ethylhexyl)phthalate	8270C	0.18	mg/kg dry	< 2.1	< 1.8	< 0.21	0.0078 J	< 2.1	< 1.8	< 1.8	< 1.7	0.0076	< 0.18	0.01 J	0.0068 J	< 0.22	< 0.18	< 0.22	< 0.17
em	Carbazole	8270C	NSA	mg/kg dry	< 0.21	< 0.18	0.0013 J	0.0023 J	< 0.21	< 0.18	< 0.18	< 0.17	0.0024	< 0.018	0.0011 J	< 0.022	< 0.022	< 0.018	< 0.022	0.00075 J
• • • • • • • • • • • • • • • • • • • •	Chrysene	8270C 8270C	0.027 0.0062	mg/kg dry	0.0098 J < 0.057	0.029 J < 0.047	0.0083	0.016 < 0.0051	< 0.034	0.29 < 0.047	1 < 0.047	0.0035 J < 0.046	0.021 0.0026	0.013 < 0.0048	0.0085	0.0033 J < 0.0059	0.0054 < 0.0058	< 0.0030	< 0.0037 < 0.0059	< 0.0029
	Dibenzo(a,h)anthracene Dibenzofuran	8270C 8270C	0.42	mg/kg dry mg/kg dry	< 0.14	< 0.047 0.015 J	0.0017 J 0.0032 J	0.003 J	< 0.055 < 0.14	< 0.12	< 0.12	< 0.046	0.0026	< 0.0046	0.0017 J 0.00093 J	< 0.0059	< 0.0038	< 0.0048 < 0.012	< 0.0059	< 0.0047 < 0.012
	Diethylphthalate	8270C	0.60	mg/kg dry	< 0.14	< 0.12	< 0.014	0.013 U	< 0.14	< 0.12	< 0.12	< 0.11	0.014 U	< 0.012	0.013 U	< 0.015	0.014 U	0.012 U	0.015 U	0.012 U
	Di-n-butyl phthalate	8270C	0.11	mg/kg dry	< 0.29	< 0.24	0.028 U	0.025 U	< 0.27	< 0.23	< 0.24	< 0.23	0.028 U	< 0.024	0.026 U	0.029 U	0.029 U	0.024 U	0.029 U	0.023 U
	Di-n-octyl phthalate Fluoranthene	8270C 8270C	NSA 0.03	mg/kg dry mg/kg dry	< 0.29 0.016 J	< 0.24 0.04	0.0018 J 0.0065	< 0.025 0.0045	< 0.27 < 0.027	< 0.23 0.15	< 0.24 0.68	< 0.23 0.0065 J	0.0039 0.013	< 0.024 0.0078	< 0.026 0.014	< 0.029 0.0016 J	< 0.029 0.014	< 0.024 0.00036 J	< 0.029 0.0011 J	< 0.023 0.00066 J
	Fluorene	8270C	0.010	mg/kg dry	< 0.029	< 0.024	< 0.0028	< 0.0025	0.059	0.17	3.1	< 0.023	0.0047	0.08	< 0.0026	< 0.0029	< 0.0029	< 0.0024	< 0.0029	< 0.0023
	Indeno(1,2,3-cd)pyrene	8270C	0.017	mg/kg dry	0.024 J	0.035 J	0.0043 J	0.0064	< 0.055	0.025 J	< 0.047	< 0.046	0.0053	0.0023 J	0.004 J	0.0016 J	< 0.0058	< 0.0048	< 0.0059	< 0.0047
	Isophorone	8270C	NSA	mg/kg dry	< 0.14	< 0.12	< 0.014	< 0.013	< 0.14	0.022 J	< 0.12	< 0.11	< 0.014	< 0.012	< 0.013	< 0.015	< 0.014	< 0.012	< 0.015	< 0.012
	Naphthalene Phenanthrene	8270C 8270C	0.015 0.019	mg/kg dry mg/kg dry	< 0.029 0.017 J	0.019 J 0.04	0.0068 0.01	0.005 0.01	< 0.027 0.078	< 0.023 0.48	< 0.024 5	< 0.023 < 0.023	0.0081 0.015	0.013 0.08	0.0016 J 0.0043	< 0.0029 0.0014 J	< 0.0029 0.0081	< 0.0024 0.00053 J	< 0.0029 < 0.0029	0.00048 J < 0.0023
	Phenol	8270C	0.048	mg/kg dry	< 0.14	< 0.12	0.0055 J	0.0021 J	< 0.14	< 0.12	< 0.12	< 0.11	0.0023	< 0.012	0.0012 J	< 0.015	< 0.014	< 0.012	< 0.015	< 0.012
	Pyrene	8270C	0.044	mg/kg dry	0.013 J	0.047	0.01	0.013	0.092	0.54	2.3	0.023	0.017	0.027	0.013	< 0.0029	0.012	0.00072 J	0.001 J	0.00078 J
	1,1,2,2,-Tetrachloroethan 1,2,3-Trichlorobenzene	8260B 8260B	1.36 0.86	mg/kg dry	< 0.0013 0.0025 U	0.00018 J	< 0.0023 < 0.0023	< 0.0044 < 0.0044	< 0.0033 < 0.0033	< 0.0016 0.0016 U	< 0.0022 < 0.0022	< 0.0016 < 0.0016	< 0.0025 < 0.0025	< 0.0019 < 0.0019	< 0.0030 < 0.0030	0.00027 J 0.0028 U	< 0.0028 < 0.0028	< 0.0021 < 0.0021	< 0.0024 < 0.0024	< 0.0031 0.0031 U
	1,2,4-Trichlorobenzene	8260B	2.1	mg/kg dry mg/kg dry	0.0025 U	0.0021 U 0.0021 U	< 0.0023	< 0.0044	< 0.0033	< 0.0016	< 0.0022	< 0.0016	< 0.0025	< 0.0019	< 0.0030	0.0028 J	< 0.0028	< 0.0021	< 0.0024	< 0.0031
	1,2,4-Trimethylbenzene	8260B	NSA	mg/kg dry	< 0.0013	0.00077 J	< 0.0012	< 0.0022	< 0.0016	< 0.00080	< 0.0011	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.00072 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
	1,2-Dibromo-3-Chloroprop	8260B	NSA	mg/kg dry	< 0.0025	0.00045 J	< 0.0023	< 0.0044	< 0.0033	< 0.0016	< 0.0022	< 0.0016	< 0.0025	< 0.0019	< 0.0030	0.00054 J	< 0.0028	< 0.0021	< 0.0024	< 0.0031
	1,2-Dichororbenzene 1,3,5-Trimethylbenzene	8260B 8260B	0.017 NSA	mg/kg dry	< 0.0013 < 0.0025	0.00059 J 0.0006 J	< 0.0012 < 0.0023	< 0.0022 < 0.0044	0.0023 < 0.0033	< 0.00080 < 0.0016	0.0019 J < 0.0022	< 0.00078 < 0.0016	< 0.0012 < 0.0025	0.00039 J < 0.0019	< 0.0015 < 0.0030	0.00057 J 0.00054 J	< 0.0014 < 0.0028	< 0.0011 < 0.0021	< 0.0012 < 0.0024	< 0.0015 < 0.0031
	1.3-Dichlorobenzene	8260B	4.43	mg/kg dry mg/kg dry	< 0.0025	0.00049	< 0.0023	< 0.0022	< 0.0033	< 0.00080	< 0.0022	< 0.0078	< 0.0025	< 0.0019	< 0.0030	0.00054 J	< 0.0028	< 0.0021	< 0.0024	< 0.0031
	1,4-Dichlorobenzene	8260B	0.60	mg/kg dry	< 0.0013	0.0010 U	< 0.0012	< 0.0022	0.00094 J	< 0.00080	< 0.0011	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.0007 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
	2-Chlorotoluene	8260B	NSA	mg/kg dry	< 0.0013	0.00035 J	< 0.0012	< 0.0022	< 0.0016	< 0.00080	< 0.0011	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.00029 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
s	4-Chlorotoluene 4-Isopropyltoluene	8260B 8260B	NSA NSA	mg/kg dry mg/kg dry	< 0.0013 0.00081 J	0.00046 J 0.0011	< 0.0012 0.0072 J	< 0.0022 0.0015 J	< 0.0016 0.002	< 0.00080 < 0.00080	< 0.0011 0.0041 J	< 0.00078 < 0.00078	< 0.0012 < 0.0012	< 0.00093 0.00045 J	< 0.0015 < 0.0015	< 0.0014 0.0022	< 0.0014 0.00097	< 0.0011 < 0.0011	< 0.0012 0.00078 J	< 0.0015 < 0.0015
i.	Benzene	8260B	NSA	mg/kg dry	0.0013 U	0.0013	0.0012 U	0.0022 U	0.0016 U	0.00080 U	0.0011 U	0.00078 U	0.0012 U	0.00093 U	0.0015 U	0.0014 U	0.0014 U	0.0011 U	0.0012 U	0.0015 U
rga	Bromobenzene	8260B	NSA	mg/kg dry	< 0.0013	0.00033 J	< 0.0012	< 0.0022	< 0.0016	< 0.00080	< 0.0011	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.00035 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
<u> </u>	Chlorobenzene Chloromethane	8260B 8260B	0.0084 NSA	mg/kg dry	0.0013 U < 0.0013	0.0011 0.0032	0.003 J 0.0008 J	0.0022 U < 0.0022	0.0016 U < 0.0016	0.00080 U < 0.00080	0.0011 U < 0.0011	0.00078 U < 0.00078	0.0012 U < 0.0012	0.0010 U < 0.00093	0.0015 U < 0.0015	0.0014 U < 0.0014	0.0014 U < 0.0014	0.0011 U < 0.0011	0.0012 U < 0.0012	0.0015 U < 0.0015
ati	Ethylbenzene	8260B	1.1	mg/kg dry mg/kg dry	< 0.0013	0.0032 0.00035 J	< 0.0012	< 0.0022	< 0.0016	< 0.00080	< 0.0011	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.00028 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
°,	Hexachlorobutadiene	8260B	NSA	mg/kg dry	0.00047 J	0.0011	< 0.0012	< 0.0022	< 0.0016	< 0.00080	< 0.0011	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.00093 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
	Isopropylbenzene	8260B	0.086	mg/kg dry	< 0.0013	0.0003 J	< 0.0012	< 0.0022	0.0028	< 0.00080	0.0025 J	< 0.00078	< 0.0012	0.0005 J	< 0.0015	0.00029 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
	Methylene Chloride m-Xylene & p-Xylene	8260B 8260B	NSA 0.025	mg/kg dry mg/kg dry	< 0.0013 0.0025 U	< 0.0010 0.0021 U	< 0.0012 0.0023 U	< 0.0022 < 0.0044	< 0.0016 0.00048 J	< 0.00080 0.00014 J	< 0.0011 < 0.0022	< 0.00078 < 0.0016	< 0.0012 < 0.0025	< 0.00093 0.00022 J	< 0.0015 0.00029 J	< 0.0014 0.00065 J	< 0.0014 0.00024 U	< 0.0011 0.0021 U	< 0.0012 0.0024 U	< 0.0015 < 0.0031
	Naphthalene	8260B	0.023	mg/kg dry	0.0023 U	0.0021 U	0.0023 U	< 0.0044	0.00048 J 0.0035 J	< 0.0040	0.0062 J	< 0.0018	< 0.0025	0.00022 J 0.0034 J	< 0.0074	0.00065 J 0.0018 J	< 0.0071	< 0.0053	< 0.0060	< 0.0031
	n-Butylbenzene	8260B	NSA	mg/kg dry	0.00052 J	0.0012	< 0.0012	< 0.0022	0.0092	< 0.00080	0.018 J	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.0011 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
	N-Propylbenzene	8260B	NSA	mg/kg dry	0.0002 J	0.00054 J	< 0.0012	< 0.0022	0.00072 J	< 0.00080	< 0.0011	< 0.00078	< 0.0012	0.00045 J	< 0.0015	0.00088 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
	o-Xylene sec-Butylbenzene	8260B 8260B	NSA NSA	mg/kg dry mg/kg dry	0.0013 U < 0.0013	0.0010 U 0.00081 J	0.0012 U < 0.0012	0.0022 U < 0.0022	0.00097 J 0.0065	0.000077 J < 0.00080	< 0.0011 0.01 J	0.000049 J < 0.00078	< 0.0012 < 0.0012	0.00014 J 0.0014	0.00012 J < 0.0015	0.00036 J 0.00072 J	0.0014 U < 0.0014	0.0011 U < 0.0011	< 0.0012 < 0.0012	0.0015 U < 0.0015
	Styrene	8260B	0.56	mg/kg dry	< 0.0013	0.00051 J	< 0.0012	< 0.0022	< 0.0016	< 0.00080	< 0.0011	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.00049 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
	tert-Butylbenzene	8260B	NSA	mg/kg dry	< 0.0013	0.00082 J	< 0.0012	< 0.0022	0.00089 J	< 0.00080	< 0.0011	< 0.00078	< 0.0012	< 0.00093	< 0.0015	0.00062 J	< 0.0014	< 0.0011	< 0.0012	< 0.0015
	Toluene	8260B	NSA	mg/kg dry	0.0013 U	0.0010 U	0.0012 U	0.0022 U	0.0016 U	0.00080 U	0.0014 J	0.00078 U	0.0012 U	0.00093 U	0.0015 U	0.0022	0.0018	0.0011 U	0.0012 U	0.0015 U

Notes:

Bold - Detection is above media Screening Levels NSA - No screening level available.

" < " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively idenitifed. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate.

R - The data is rejected due to a deficiency in quality control criteria.



TABLE 3-10 Near Shore Surface Water Results

				Sample ID Collection	G-RS1SW-090609	G-RS2SW-090609	G-RS3SW-090609	G-RS4SW-090609	G-RS5SW-090609	G-RS5SW-090609	G-RS6SW-090609	G-RS7SW-090609	G-RS8SW-090609
			Screening	Date	9/6/2009	9/6/2009	9/6/2009	9/6/2009	9/6/2009	9/6/2009	9/6/2009	9/6/2009	9/6/2009
			Level										
Type	Analytes	Method	ug/L	Units									
	Diesel Range Organics	NWTPH-Dx	NSA		< 250	< 260	< 266	< 248	< 240		< 278	< 245	< 240
TPH	0 0		NSA NSA	ug/L									
	Heavy Oils	NWTPH-Dx		ug/L	< 500	< 521	< 532	< 495	< 481		< 556	< 490	< 481
	Aroclor 1016	8082	0.000064	ug/L	< 0.050	< 0.048	< 0.049	< 0.050	<0.047		< 0.050	< 0.049	< 0.048
	Aroclor 1221	8082	0.000064	ug/L	< 0.050	< 0.048	< 0.049	< 0.050	<0.047		< 0.050	< 0.049	< 0.048
Bs	Aroclor 1232	8082	0.000064	ug/L	< 0.050	< 0.048	< 0.049	< 0.050	<0.047 <0.047		< 0.050	< 0.049 < 0.049	< 0.048
PC	Aroclor 1242 Aroclor 1248	8082 8082	0.000064 0.000064	ug/L	< 0.050 < 0.050	< 0.048 < 0.048	< 0.049 < 0.049	< 0.050 < 0.050	<0.047 <0.047		< 0.050 < 0.050	< 0.049 < 0.049	< 0.048 < 0.048
	Aroclor 1254	8082 8082	0.000064	ug/L	< 0.050	< 0.048	< 0.049	< 0.050	<0.047		< 0.050	< 0.049 < 0.049	< 0.048
	Aroclor 1260	8082	0.000064	ug/L ug/L	< 0.050	< 0.048	< 0.049	< 0.050	<0.047		< 0.050	< 0.049	< 0.048
_	Benzo(a)anthracene	8270 SIM	0.0038	_	< 0.0096	< 0.0099	< 0.0094	0.0077 J	< 0.011		< 0.01	< 0.0095	< 0.0095
ΨH	Benzo(a)pyrene	8270 SIM	0.0038	ug/L ug/L	< 0.0090	< 0.02	< 0.019	< 0.02	< 0.022		< 0.02	< 0.019	< 0.019
c P	Benzo(b)fluoranthene	8270 SIM	0.0038	ug/L ug/L	< 0.0096	< 0.0099	< 0.0094	< 0.0099	< 0.022		< 0.02	< 0.0095	< 0.0095
emi	Benzo(k)fluoranthene	8270 SIM	0.0038	ug/L ug/L	< 0.0096	< 0.0099	< 0.0094	< 0.0099	< 0.011		< 0.01	< 0.0095	< 0.0095
10 g	Chrysene	8270 SIM	0.0038	ug/L ug/L	< 0.0096	< 0.0099	< 0.0094	0.015	< 0.011		< 0.01	< 0.0095	< 0.0095
.ci	Dibenzo(a,h)anthracene	8270 SIM	0.0038	ug/L ug/L	< 0.0096	< 0.0099	< 0.0094	< 0.0099	< 0.011		< 0.01	< 0.0095	< 0.0095
Ça.	Indeno(1,2,3-cd)pyrene	8270 SIM	0.0038	ug/L	< 0.0096	< 0.0099	< 0.0094	< 0.0099	< 0.011		< 0.01	< 0.0095	< 0.0095
•	Acenaphthene	8270 SIM	670	ug/L	0.0012 J	0.0099 U	0.0094 U	0.044	0.059		0.0025 J	0.0095 U	0.0017 J
၁	Acenaphthylene	8270 SIM	NSA	ug/L ug/L	< 0.0096	< 0.0099	< 0.0094	0.0094 J	0.0071 J		< 0.01	0.0015 J	< 0.0095
Carcinogenic PAH	Anthracene	8270 SIM	8300	ug/L	0.0011 J	0.0099 U	0.0094 U	0.021	0.0049 J		0.0015 J	0.0095 U	0.0011 J
o g _	Benzo(g,h,i)perylene	8270 SIM	NSA	ug/L	< 0.0096	< 0.0099	< 0.0094	< 0.0099	< 0.011		< 0.01	< 0.0095	< 0.0095
či A	Fluoranthene	8270 SIM	130	ug/L	0.0020 J	0.0099 U	0.0094 U	0.017	0.0038 J		0.0025 J	0.0095 U	0.0022 J
Ca L	Fluorene	8270 SIM	1100	ug/L	0.0026 J	0.0099 U	0.0094 U	0.13	0.097		0.0045 J	0.0095 U	0.0026 J
1.	Naphthalene	8270 SIM	NSA	ug/L	< 0.0096	< 0.0099	< 0.0094	0.0099 U	0.054		< 0.01	< 0.0095	< 0.0095
Non	Phenanthrene	8270 SIM	NSA	ug/L	0.0040 J	0.0099 U	0.0094 U	0.21	0.035		0.0085 J	0.0095 U	0.0033 J
	Pyrene	8270 SIM	830	ug/L	< 0.0096	0.0099 U	0.0094 U	0.039	0.0049 J		0.0022 J	0.0095 U	0.0023 J
	1-Methylnaphthalene	8270 SIM	NSA	ug/L	0.0024 J	0.0099 U	0.0094 U	0.11	0.21		0.0056 J	0.0095 U	0.0041 J
	2-Methylnaphthalene	8270 SIM	NSA	ug/L	< 0.012	< 0.013	< 0.012	0.013 U	0.013 J		< 0.013	< 0.012	< 0.012
	Aluminum	6010 / 6020	NSA	ug/L	< 500	< 500	< 500	< 500	< 500		< 500	< 500	< 500
	Arsenic	6010 / 6020	50	ug/L	< 2	< 2	< 2	< 2	0.52 J		1.1 J	< 2	< 2
	Antimony	6010 / 6020	5.6	ug/L	< 2	< 2	< 2	< 2	< 2		< 2	< 2	< 2
	Barium	6010 / 6020	NSA	ug/L	7.9	8.1	7.2	7.9	13		8	7.6	7.2
	Beryllium	6010 / 6020	NSA	ug/L	< 2	< 2	< 2	< 2	< 2		< 2	< 2	< 2
	Calcium	6010 / 6020	NSA	ug/L	12000	12000	11000	11000	15000		11000	11000	11000
	Cadmium	6010 / 6020	0.6	ug/L	<0.14*	<0.14*	<0.14*	<0.14*	<0.14*		<0.14*	<0.14*	<0.14*
	Chromium	6010 / 6020	74	ug/L	0.46 J	< 2	< 2	0.44 J	< 2		0.38 J	0.42 J	0.51 J
	Cobalt	6010 / 6020	NSA	ug/L	< 2	< 2	< 2	< 2	< 2		< 2	< 2	< 2
etals	Copper	6010 / 6020	11	ug/L	0.75 J	0.9 J	0.74 J	0.78 J	0.8 J		0.84 J	0.76 J	0.77 J
Лet	Iron	6010 / 6020	NSA	ug/L	< 200	51 J	< 200	41 J	1700	590	68 J	< 200	< 200
=	Lead	6010 / 6020	2.5	ug/L	< 2	< 2	< 2	< 2	< 2		< 2	< 2	< 2
Total	Magnesium	6010 / 6020	NSA	ug/L	2500	2400	2400	2300	3000	120	2300	2300	2300
-	Manganese	6010 / 6020	NSA NSA	ug/L	< 20	< 20	< 20	11 J	160	130	11 J	7.6 J	1.9 J
	Mercury	7470A / 7471B 6010 / 6020	NSA 52	ug/L	< 0.2 0.53 J	0.12 J 0.52 J	< 0.2 0.46 J	< 0.2 0.38 J	< 0.2 0.58 J		0.12 J 0.46 J	< 0.2 0.47 J	< 0.2 0.39 J
	Nickel Potassium	6010 / 6020	NSA	ug/L	660 J	0.52 J 670 J	680 J	660 J	760 J		680 J	690 J	680 J
	Selenium	6010 / 6020	NSA 5	ug/L ug/L	< 2	670 J < 2	< 2	< 2	760 J < 2		< 2	690 J < 2	< 2
	Silver	6010 / 6020	3.4	ug/L ug/L	< 2	< 2	< 2	< 2	< 2		< 2	< 2	< 2
	Sodium	6010 / 6020	NSA	ug/L ug/L	1100 J	1100 J	1000 J	1000 J	1200 J		1000 J	1000 J	1000 J
	Thallium	6010 / 6020	0.24	ug/L ug/L	< 4	< 4	< 4	0.14 J	< 4		< 4	< 4	< 4
	Vanadium	6010 / 6020	NSA	ug/L ug/L	0.28 J	< 2	< 2	< 2	< 2		< 2	< 2	< 2
	Zinc	6010 / 6020	120	ug/L ug/L	< 7	< 7	< 7	< 7	< 7		< 7	< 7	< 7
Notes	* * Indicates a minimum de			8/~-	• •	• •	• •	• •	· •		• •	• •	

Notes: * Indicates a minimum detection limit.

Shading indicates dissolved metals analysis. **Bold -** Detection is above media Screening Levels

NSA - No screening level available.



[&]quot; < " - The analyte is not detected above the reporting quantitation limit.

U - Analyte not detected above the reported amount as a result of validation rules.

J - The analyte is positively idenitifed. However, the result is an estimated value.

UJ - The analyte was not detected above the reporting quantitation limit. However the reporting limit is approximate.

R - The data is rejected due to a deficiency in quality control criteria.

TABLE 3-12 Field QA/QC Sample Results

Sample ID	G-EB-090509	G-EB-090709	G-GA3- 090309	G-GA3D- 090309	G-GA3S- 090309	G-RS-5SED- 0-090809	G-RS5DSED- 0-090709	G-RS-5SSED- 0-090809	G-RS3SW- 090609	G-RS3SSW- 090609	G-RS3DSW- 090609	G-GA3-20- 082609	GA-D2- 082609	GA-D- 082609
QA/QC Sample Type	GW Equipment	Sediment Equipment	Parent Sample	Duplicate Sample	Split Sample	Parent	Duplicate Sample	Split Sample	Parent Sample	Duplicate Sample	Split Sample	Parent Sample	Duplicate Sample	Split Sample
Analytes	ug/L			Groundwater ug/L			Sediment mg/kg			erSurface Wate		Soil mg/kg	Soil mg/kg	Soil mg/kg
Diesel Range Organics	<0.000240	<0.000245	< 243	< 250	< 250	24.3	36.9	63	< 266	< 250	< 236	22.9 J	39.4 J	50.1 J
Heavy Oils	<0.000481	<0.00049	< 485	< 500	< 500	112	182	79	< 532	<500	< 472	70.7 J	119 J	88.1 J
Aroclor 1016	<0.047	<0.047	< 0.047	< 0.047	< 0.010	<0.010	<0.010	< 0.031	< 0.049	< 0.010	< 0.048	< 9.59	< 9.93	< 9.89
Aroclor 1221	<0.0058*	<0.0058*	0.047 UJ	0.047 UJ	< 0.010	<0.010	<0.010	< 0.031	< 0.049	< 0.010	< 0.048	< 9.59	< 9.93	< 9.89
Aroclor 1232	<0.0039*	<0.0039*	0.047 UJ	0.047 UJ	< 0.010	<0.010	<0.010	< 0.031	< 0.049	< 0.010	< 0.048	< 9.59	< 9.93	< 9.89
Aroclor 1242	<0.0039*	<0.0039*	0.047 UJ	0.047 UJ	< 0.010	<0.010	<0.010	< 0.031	< 0.049	< 0.010	< 0.048	< 9.59	< 9.93	< 9.89
Aroclor 1248	<0.0037*	<0.0067*	0.047 UJ	0.047 UJ	< 0.010	<0.010	<0.010	< 0.031	< 0.049	< 0.010	< 0.048	< 9.59	< 9.93	< 9.89
Aroclor 1254 Aroclor 1260	<0.0042*	<0.0042*	0.047 UJ	0.047 UJ	< 0.010	<0.010	<0.010	< 0.031	< 0.049	< 0.010	< 0.048	< 9.59	< 9.93	< 9.89
Benzo(a)anthracene	<0.0037*	<0.0037*	< 0.047	< 0.047	< 0.010	<0.010	<0.010	< 0.031	< 0.049	< 0.010	< 0.048	< 9.59	< 9.93	< 9.89
	<0.0094	<0.0094	< 0.0094	< 0.0094	< 0.010	0.00586	< 0.00489	< 0.0046	< 0.0094	< 0.010	< 0.0094	0.00457 UJ	0.00451 UJ	0.00449 UJ
Benzo(a)pyrene Benzo(b)fluoranthene	<0.0018*	<0.0018*	< 0.019	< 0.019	< 0.010	0.00521	< 0.00489	0.018	< 0.019	< 0.010	< 0.019	0.00457 UJ	0.00451 UJ	0.00449 UJ
	<0.0094	<0.0094	< 0.0094	< 0.0094	< 0.010	< 0.00488	0.00587	0.0083	< 0.0094	< 0.010	< 0.0094	0.00457 UJ	0.00451 UJ	0.00449 UJ
Benzo(k)fluoranthene	<0.0094	<0.0094	< 0.0094	< 0.0094	< 0.010	0.01040	< 0.00489	0.0083	< 0.0094	< 0.010	< 0.0094	0.00457 UJ	0.00451 UJ	0.00449 UJ
Chrysene	<0.0094	<0.0094	< 0.0094	< 0.0094	< 0.010	0.00976	< 0.00489	0.028	< 0.0094	< 0.010	< 0.0094	0.00457 UJ	.00652 J	0.00549 J
Dibenzo(a,h)anthracene	<0.0017*	<0.0017*	< 0.0094	< 0.0094	< 0.010	< 0.00488 < 0.00488	0.00522	< 0.0046 0.0065	< 0.0094	< 0.010	< 0.0094 < 0.0094	0.00457 UJ	0.00451 UJ	0.00449 UJ 0.00449 J
Indeno(1,2,3-cd)pyrene Acenaphthene	<0.0094 0.038	<0.0094 0.018	< 0.0094 0.025	< 0.0094 0.025	< 0.010 0.016	< 0.00488	0.00718 < 0.00489	< 0.0046	< 0.0094 0.0094 U	< 0.010 < 0.010	0.0094 0.0094 U	0.00457 UJ 0.00457 UJ	0.00451 UJ 0.00451 UJ	0.00449 UJ
Acenaphthylene	<0.0094	0.0013	0.0050 J	0.0048 J	< 0.010	< 0.00488	< 0.00489	< 0.0046	< 0.0094	< 0.010	< 0.0094	0.00457 UJ	0.00451 UJ	0.00449 UJ
Anthracene	0.0012	<0.0012	< 0.0094	< 0.0094	< 0.010	< 0.00488	< 0.00489	< 0.0046	0.0094 U	< 0.010	0.0094 U	0.00457 UJ	0.00451 UJ	0.00749 J
Benzo(g,h,i)perylene	<00094	<0.0094	< 0.0094	< 0.0094	< 0.010	0.00586	0.00848	0.017	< 0.0094	< 0.010	< 0.0094	0.00457 UJ	0.00451 UJ	0.00449 UJ
Fluoranthene	<0.0094	0.0026	0.0087 J	0.0049 J	< 0.010	0.00716	< 0.00489	0.0079	0.0094 U	< 0.010	0.0094 U	0.00457 UJ	0.00451 UJ	0.00449 UJ
Fluorene	0.0034	0.0026	0.019	0.017	< 0.010	< 0.00488	< 0.00489	0.0051	0.0094 U	< 0.010	0.0094 U	0.00457 UJ	0.00451 UJ	0.00599 J
Naphthalene	0.021	0.014	0.040	0.038	0.045 J	< 0.00488	< 0.00489	< 0.0046	< 0.0094	< 0.010	< 0.0094	0.00457 UJ	0.00451 UJ	0.00449 UJ
Phenanthrene	0.0047	< 0.0034	0.020	0.019 U	< 0.010	< 0.00488	< 0.00489	0.0083	0.0094 U	< 0.010	0.0094 U	0.00457 UJ	0.00451 UJ	0.00449 UJ
Pyrene	<0.0094	<0.0094	0.0097 U	0.0094 U	< 0.010	0.01430	< 0.00489	0.059	0.0094 U	< 0.010	0.0094 U	0.00457 UJ	0.00752 J	0.00649 J
1-Methylnaphthalene	0.0098	0.0048	0.021	0.020	0.018	< 0.00488	< 0.00489	< 0.0046	0.0094 U	< 0.010	0.0094 U	0.00457 UJ	0.00451 UJ	0.00449 UJ
2-Methylnaphthalene	0.013	0.0079	0.020	0.019	0.015 J	< 0.00488	< 0.00489	0.006	< 0.012	< 0.010	< 0.012	0.00457 UJ	0.00451 UJ	0.00449 UJ
Aluminum	<50	<0.0005	400 U	400 U	< 50	6900	7000	9840	< 500	< 50	< 500	N/A	N/A	N/A
Arsenic	<2	<2	0.91 J	0.72 J	2.6	8.5	9	9.6	< 2	0.4	< 2	N/A	N/A	N/A
Antimony	<2	<2	1.5 J	1.2 J	0.2	1.2	1	< 0.3	< 2	< 0.2	< 2	N/A	N/A	N/A
Barium	<6	<6	38	38	31	39	41	44.7	7.2	6	7.7	N/A	N/A	N/A
Beryllium	<2	<2	< 2.0	< 2.0	< 1	0.28	0.28	0.3	< 2	< 1	< 2	N/A	N/A	N/A
Calcium	<1100	<1100	21000	21000	20400	1300	1400	1690	11000	11100	11000	N/A	N/A	N/A
Cadmium	<2	<2	< 2.0	< 2.0	< 2	0.28 U	0.27 U	< 0.3	< 2	< 2	< 2	N/A	N/A	N/A
Chromium	<2	<2	0.38 J	< 2.0	< 5	7.8	7.9	8.9	< 2	< 5	< 2	N/A	N/A	N/A
Cobalt	<2	<2	0.38 J	0.36 J	< 3	6.8	7	6.7	< 2	< 3	< 2	N/A	N/A	N/A
Copper	<0.66	<0.24	1.6 J	1.7 J	< 2	22	21	20.4	0.74 J	< 2	0.75 J	N/A	N/A	N/A
Iron Lead	<200	<200	53 J	50 J	150	16000	16000	18300	< 200	< 50	< 200	N/A	N/A	N/A
Magnesium	<2	<2	< 2.0	< 2.0	< 1	13	14	12	< 2	< 1	< 2	N/A	N/A	N/A
	<1100	<1100	3300	3300	3280	4100	4100	5480	2400	2350	2300	N/A	N/A	N/A
Manganese	<20	<20	440	450	429	210	190	178	< 20	2	< 20	N/A	N/A	N/A
Mercury	<2	<2	< 0.02	< 0.02	< 0.02	< 0.025	< 0.026	< 0.03	< 0.2	< 0.02	0.09 J	N/A	N/A	N/A
Nickel	0.37	<2	2.4	2.4	< 10	12	11	12 J	0.46 J	< 10	0.43 J	N/A	N/A	N/A
Potassium	<3300	<3300	2400 J	2500 J	2360	1200	1100	1710	680 J	690	640 J	N/A	N/A	N/A
Selenium	<2	<2	< 2.0	< 2.0	< 50	0.70 U	0.68 U	< 0.7	< 2	< 50	< 2	N/A	N/A	N/A
Silver	<2	<2	< 2.0	< 2.0	< 3	< 1.4	< 1.4	< 0.03	< 2	< 3	< 2	N/A	N/A	N/A
Sodium Thallium	<2000	<2000	2000 U	1600 U	1620	< 140 0.56 U	< 140	80	1000 J	1320	990 J	N/A	N/A	N/A N/A
Vanadium	<2 <2	<2 <2	< 4.0 0.75 J	< 4.0 < 2.0	< 0.2 < 3	16	0.54 U 17	< 0.3 18.9	< 4 < 2	< 0.2 < 3	< 4 < 2	N/A N/A	N/A N/A	N/A
Zinc	<7	9.2	2.5 J	2.3 J	< 10	30	34	37	< 7	< 10	< 7	N/A	N/A	N/A
1-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	0.0063	0.0038 J	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
2,6-Dinitrotoluene2-Chloronaphthalene	N/A	N/A	N/A	N/A	N/A	< 0.014	< 0.014	< 0.3	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	< 0.0028	< 0.0028	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	N/A	N/A	N/A	N/A	N/A	0.013	0.0052	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
3 & 4 Methylphenol	N/A	N/A	N/A	N/A	N/A	0.0022	< 0.028	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	N/A	N/A	N/A	N/A	N/A	0.0031	0.0044	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthylene	N/A	N/A	N/A	N/A	N/A	0.0025	0.0017 J	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	N/A	N/A	N/A	N/A	N/A	0.0036	0.0027 J	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene Benzo(a)pyrene	N/A	N/A	N/A	N/A	N/A	0.0089	0.0042	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	0.0074	0.0056	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	N/A	0.018	0.0076	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[g.h.j]perylene	N/A	N/A	N/A	N/A	N/A	0.009	0.0083	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[k]fluoranthene	N/A	N/A	N/A	N/A	N/A	0.0037	0.0021 J	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Benzoic acid	N/A	N/A	N/A	N/A	N/A	0.11	< 0.35	< 0.6	N/A	N/A	N/A	N/A	N/A	N/A
Benzyl alcohol	N/A	N/A	N/A	N/A	N/A	< 0.014	< 0.014	< 0.3	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-ethylhexyl)phthalate Carbazole	N/A	N/A	N/A	N/A	N/A	0.0076	< 0.21	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	0.0024	< 0.021	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	N/A	0.021	0.011	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	0.0026	0.0023 J	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzofuran	N/A	N/A	N/A	N/A	N/A	0.0064	0.003 J	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Diethylphthalate Di-n-butyl phthalate	N/A	N/A	N/A	N/A	N/A	0.014 U	0.014 U	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	0.028 U	0.028 U	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Di-n-octyl phthalate Fluoranthene	N/A	N/A	N/A	N/A	N/A	0.0039	< 0.028	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	0.013	0.01	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Fluorene	N/A	N/A	N/A	N/A	N/A	0.0047	0.0052	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	N/A	0.0053	0.0045 J	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Isophorone	N/A	N/A	N/A	N/A	N/A	< 0.014	< 0.014	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Naphthalene	N/A	N/A	N/A	N/A	N/A	0.0081	0.0045	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	N/A	N/A	N/A	N/A	N/A	0.015	0.0084	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	N/A	N/A	N/A	N/A	N/A	0.0023	< 0.014	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	N/A	N/A	N/A	N/A	N/A	0.017	0.011	< 0.06	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2,2,-Tetrachloroethane 1,2,3-Trichlorobenzene	N/A	N/A	N/A	N/A	N/A	< 0.0025	< 0.0026	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	< 0.0025	< 0.0026	< 0.0063	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	N/A	N/A	N/A	N/A	N/A	< 0.0025	< 0.0026	< 0.0063	N/A	N/A N/A	N/A	N/A	N/A	N/A
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dibromo-3-Chloropropane	N/A	N/A	N/A	N/A	N/A	< 0.0025	< 0.0026	< 0.0063	N/A		N/A	N/A	N/A	N/A
1,2-Dichororbenzene 1,3,5-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	< 0.0025	< 0.0026	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
2-Chlorotoluene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
4-Chlorotoluene 4-Isopropyltoluene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	N/A	N/A	N/A	N/A	N/A	0.0012 U	0.0013 U	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Bromobenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	N/A	N/A	N/A	N/A	N/A	0.0012 U	0.0013 U	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Chloromethane	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobutadiene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0063	N/A	N/A	N/A	N/A	N/A	N/A
Isopropylbenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Methylene Chloride	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
m-Xylene & p-Xylene	N/A	N/A	N/A	N/A	N/A	< 0.0025	0.00022 J	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Naphthalene	N/A	N/A	N/A	N/A	N/A	< 0.0062	< 0.0065	< 0.0063	N/A	N/A	N/A	N/A	N/A	N/A
n-Butylbenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
N-Propylbenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
o-Xylene	N/A	N/A	N/A	N/A	N/A	< 0.0012	0.00018 J	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
sec-Butylbenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Styrene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
tert-Butylbenzene	N/A	N/A	N/A	N/A	N/A	< 0.0012	< 0.0013	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	0.0012 U	0.0013 U	< 0.0013	N/A	N/A	N/A	N/A	N/A	N/A

ND - Not detected above the practical quantitation limit.

NSA - No standard available. **Bold** - Detection is above media Screening Levels J - Estimated value.
U - Not detected above the practical quantitation limit.

* MDL value



ecology and environment, inc. International Specialists in the Environment 720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE:

May 11, 2010

TO:

Steve Hall, START-3 Project Manager, E & E, Seattle, WA

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington MW

SUBJ:

Organic Data Quality Assurance Review,

Avery Landing Site, Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of one soil sample collected from the Avery Landing site located in Avery, Idaho, has been completed. Analysis for Volatile Organic Compounds (VOCs; EPA Method 8260) was performed by Analytical Resources, Inc., Tukwila, Washington.

The sample was numbered;

G-RS5SSED-0-090809

Data Qualifications:

1. Sample Holding Times: Acceptable.

The sample was maintained and received within the QC limits of < 6°C. The sample was collected on September 8, 2009, and was analyzed on September 16, 2009, therefore meeting QC criteria of less than 14 days between collection and analysis for soil samples.

2. Tuning: Not Reviewed.

Tuning information was not provided.

3. Initial Calibration: Not Provided.

Initial calibration information was not provided. The case narrative indicated that all initial calibration results were acceptable.

4. Continuing Calibration: Not Provided.

Continuing calibration information was not provided. The case narrative indicated that vinyl chloride was outside QC limits and that positive results were qualified "Q".

5. Blanks: Acceptable.

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

6. System Monitoring Compounds (SMCs): Acceptable.

All SMC recoveries were within QC limits.

7. Blank Spike (BS)/BS Duplicate (BSD) Analysis: Acceptable.

BS and BSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within OC limits.

8. Duplicate Analysis: Acceptable.

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

9. Internal Standards: Not Provided.

Internal standard information was not provided. The case narrative indicated that the internal standard results were acceptable.

10. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

11. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- R The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.



ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C Page 1 of 2

SAMPLE

Lab Sample ID: PN69A LIMS ID: 09-21001

LIMS ID: 09-2100: Matrix: Soil

Data Release Authorized: Reported: 09/22/09

ed:

Reported: 09/22/09

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/16/09 18:17

Date Sampled: 09/08/09
Date Received: 09/10/09

QC Report No: PN69-Golder Associates

073-93312-03

Project: Avery Landing

Date Received: 09/10/09

Sample Amount: 3.94 g-dry-wt

Purge Volume: 5.0 mL Moisture: 29.7%

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.3	< 1.3	U
74-83-9	Bromomethane	1.3	< 1.3	U
75-01-4	Vinyl Chloride	1.3	< 1.3	U
75 - 00-3	Chloroethane	1.3	< 1.3	Ū
75-09-2	Methylene Chloride	2.5	< 2.5	Ū
67-64-1	Acetone	6.3	61	•
75-15-0	Carbon Disulfide	1.3	< 1.3	υ
75-35-4	1,1-Dichloroethene	1.3	< 1.3	Ü
75-34-3	1,1-Dichloroethane	1.3	< 1.3	ש
156-60-5	trans-1,2-Dichloroethene	1.3	< 1.3	U
156-59-2	cis-1,2-Dichloroethene	1.3	< 1.3	U
67-66-3	Chloroform	1.3	< 1.3	Ū
107-06-2	1,2-Dichloroethane	1.3	< 1.3	Ŭ
78-93-3	2-Butanone	6.3	28	U
	- '			
71-55-6	1,1,1-Trichloroethane	1.3	< 1.3	U
56-23-5	Carbon Tetrachloride	1.3	< 1.3	U
108-05-4	Vinyl Acetate	6.3	< 6.3	U
75-27-4	Bromodichloromethane	1.3	< 1.3	Ŭ
78-87-5	1,2-Dichloropropane	1.3	< 1.3	U
10061-01-5	cis-1,3-Dichloropropene	1.3	< 1.3	Ū
79-01-6	Trichloroethene	1.3	< 1.3	U
124-48-1	Dibromochloromethane	1.3	< 1.3	U
79-00-5	1,1,2-Trichloroethane	1.3	< 1.3	U
71-43-2	Benzene	1.3	< 1.3	Ū
10061-02-6	trans-1,3-Dichloropropene	1.3	< 1.3	U
110-75-8	2-Chloroethylvinylether	6.3	< 6.3	Ü
75-25-2	Bromoform	1.3	< 1.3	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	6.3	< 6.3	Ŭ
591-78-6	2-Hexanone	6.3	< 6.3	U
127-18-4	Tetrachloroethene	1.3	< 1.3	U
79-34-5	1,1,2,2-Tetrachloroethane	1.3	< 1.3	U
108-88-3	Toluene-	13		U
108-90-7	Chlorobenzene	1.3	< 1.3	U
100-41-4	Ethylbenzene	1.3	< 1.3	Ū
100-42-5	Styrene	1.3		Ū
75-69-4	Trichlorofluoromethane	1.3		Ü
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe		< 2.5	Ū
179601-23-1	m,p-Xylene	1.3		บ
95-47-6	o-Xylene	-13		Ū
95-50-1	1,2-Dichlorobenzene	1.3		U
541-73-1	1,3-Dichlorobenzene	1.3		Ŭ
106-46-7	1,4-Dichlorobenzene	1.3		U
107-02-8	Acrolein	63		U U
74-88-4	Methyl Iodide	1.3		_
	Bromoethane			U
74-96-4		2.5		U
107-13-1	Acrylonitrile	6.3	< 6.3	U ^

MW5-11-1



ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 2 of 2

Sample ID: G-RS5SSED-0-090809

SAMPLE

Lab Sample ID: PN69A

LIMS ID: 09-21001

Matrix: Soil

QC Report No: PN69-Golder Associates

Project: Avery Landing

073-93312-03

Date Analyzed: 09/16/09 18:17

CAS Numb	er Analyte	RL	Result	Q
563-58-6	1,1-Dichloropropene	1.3	< 1.3	U
74-95-3	Dibromomethane	1.3	< 1.3	U
630-20-6	1,1,1,2-Tetrachloroethane	1.3	< 1.3	U
96-12-8	1,2-Dibromo-3-chloropropane	6.3	< 6.3	U
96-18-4	1,2,3-Trichloropropane	2.5	< 2.5	U
110-57-6	trans-1,4-Dichloro-2-butene	6.3	< 6.3	U
108-67-8	1,3,5-Trimethylbenzene	1.3	< 1.3	U
95-63-6	1,2,4-Trimethylbenzene	1.3	< 1.3	Ŭ
87-68-3	Hexachlorobutadiene	6.3	< 6.3	U
106-93-4	Ethylene Dibromide	1.3	< 1.3	Ų
74-97-5	Bromochloromethane	1.3	< 1.3	U
594-20-7	2,2-Dichloropropane	1.3	< 1.3.	U
142 - 28-9	1,3-Dichloropropane	1.3	< 1.3	U
98-82-8	Isopropylbenzene	1.3	< 1.3	U
103-65-1	n-Propylbenzene	1.3	< 1.3	U
108-86-1	Bromobenzene	1.3	< 1.3	U
95-49-8	2-Chlorotoluene	1.3	< 1.3	U
106-43-4	4-Chlorotoluene	1.3	< 1.3	U
98-06-6	tert-Butylbenzene	1.3	< 1.3	U.
135-98-8	sec-Butylbenzene	1.3	< 1.3	U
99-87-6	4-Isopropyltoluene	1.3	< 1.3	ប
104-51-8	n-Butylbenzene	1.3	< 1.3	U
120-82-1	1,2,4-Trichlorobenzene	6.3	< 6.3	Ŭ
91-20-3	Naphthalene	6.3	< 6.3	U
87-61-6	1,2,3-Trichlorobenzene	6.3	< 6.3	U

Reported in $\mu g/kg$ (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	119%
d8-Toluene	106%
Bromofluorobenzene	98.5%
d4-1,2-Dichlorobenzene	101%

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720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE:

May 11, 2010

TO:

Steve Hall, START-3 Project Manager, E & E, Seattle, WA

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review,

Avery Landing Site, Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of one soil sample collected from the Avery Landing site located in Avery, Idaho, has been completed. Analysis for Semivolatile Organic Compounds (SVOCs; EPA Method 8270 and 8270-SIM) was performed by Analytical Resources, Inc., Tukwila, Washington.

The sample was numbered:

G-RS5SSED-0-090809

Data Qualifications:

1. Sample Holding Times: Acceptable.

The sample was maintained and received within the QC limits of < 6°C. The sample was collected on September 8, 2009, was extracted on September 14, 2009, and was analyzed by September 17, 2009, therefore meeting holding time criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis.

2. Tuning: Not Provided.

Tuning information was not provided.

3. Initial Calibration: Not Provided.

Initial calibration information was not provided. The case narrative indicated that 2,4-dinitrophenol was outside QC limits and positive results were qualified "Q".

4. Continuing Calibration: Not Provided.

Continuing calibration information was not provided. The case narrative indicated that hexachlorocyclopentadiene results were below QC limits and positive results were qualified.

5. Blanks: Acceptable.

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

6. System Monitoring Compounds (SMCs): Acceptable.

All SMC recoveries were within QC limits.

7. Matrix Spike (MS)/MS Duplicate (MSD)/Blank Spike (BS)/BS Duplicate Analysis: Acceptable.

The case narrative indicated that several MS and MSD results were outside QC limits, but there was no indication which analytes were outside of the limits. No qualifications were applied based on the unknown MS and/or MSD outliers. The case narrative also indicated that several BS and/or BSD recoveries were above QC limits; however, since there were no associated positive results, no qualifications were applied.

8. Duplicate Analysis: Acceptable.

Spike duplicate results were provided and there was no indication of outliers, therefore no qualifications were applied.

9. Internal Standards: Not Provided.

Internal standard information was not provided. The case narrative indicated that internal standard results were acceptable.

10. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

11. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- R The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.



ORGANICS ANALYSIS DATA SHEET Semivolatiles by SW8270D GC/MS Page 1 of 2

Sample ID: G-RS5SSED-0-090809 SAMPLE

Lab Sample ID: PN69A LIMS ID: 09-21001

Matrix: Soil

Data Release Authorized: Reported: 09/18/09

Date Extracted: 09/14/09 Date Analyzed: 09/15/09 12:39 Instrument/Analyst: NT6/JZ

GPC Cleanup: No

QC Report No: PN69-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: 09/08/09 Date Received: 09/10/09

Sample Amount: 8.28 g-dry-wt

Final Extract Volume: 0.5 mL Dilution Factor: 1.00 Percent Moisture: 25.1%

CAS Number	Analyte	ŔĹ	Result
108-95-2	Phenol	60	< 60 U
111-44-4	Bis-(2-Chloroethyl) Ether	60	< .60 Ŭ
95-57-8	2-Chlorophenol	60	< 60 U
541-73-1	1,3-Dichlorobenzene	60	< 60 U
106-46-7	1,4-Dichlorobenzene	60	< 60 U
100-51-6	Benzyl Alcohol	300	< 300 U
95-50 - 1	1,2-Dichlorobenzene	60	` < 60 U
95-48-7	2-Methylphenol	60	< 60 Ü
108-60-1	2,2'-Oxybis(1-Chloropropane)	60	< 60 U
106-44-5	4-Methylphenol	60	< 60 Ŭ
621-64-7	N-Nitroso-Di-N-Propylamine	300	< 300 U
67-72 - 1	Hexachloroethane	60	< 60 U
98-95-3	Nitrobenzene	60	< 60 U
78-59-1	Isophorone	60 '	< 60 บั
88-75-5	2-Nitrophenol	60	< 60 U
105-67-9	2,4-Dimethylphenol	60	< 60 U
65-85-0	Benzoic Acid	600	< 600 U
111-91-1	bis(2-Chloroethoxy) Methane	60	< 60 U
120-83-2	2,4-Dichlorophenol	300	< 300 U
120-82-1	1,2,4-Trichlorobenzene	60	< 60 บ
91-20-3	Naphthalene	60	< 60 U
106-47-8	4-Chloroaniline	300	< 300 U
87-68-3	Hexachlorobutadiene	60	< 60 U
59-50-7	4-Chloro-3-methylphenol	300	< 300 U
91-57-6	2-Methylnaphthalene	60	< 60 U
77-47-4	Hexachlorocyclopentadiene	300	< 300 U
88-06-2	2,4,6-Trichlorophenol	300	< 300 U
95-95-4	2,4,5-Trichlorophenol	300	< 300 U
91-58-7	2-Chloronaphthalene	60	< 60 Ü
88-74-4	2-Nitroaniline	300	< .300 Ü
131=11=3	Dimethylphthalate	60	<-60-U-
208-96-8	Acenaphthylene	60	< 60 U
99-09-2	3-Nitroaniline	300	< 300 .U
83-32-9	Acenaphthene	60	< 60 U
51-28-5	2,4-Dinitrophenol	600	. < 600 U
100-02-7	4-Nitrophenol	300	< 300 U
132-64-9	Dibenzofuran	60	< 60 U
506-20-2	2,6-Dinitrotoluene	300	< 300 U
121-14-2	2,4-Dinitrotoluene	300	< 300 U
34-66-2	Diethylphthalate	60	< 60 U
7005-72-3	4-Chlorophenyl-phenylether	60	< 60 U
36-73 - 7	Fluorene	60	< 60 U
100-01-6	4-Nitroaniline	300	< 300 U
534-52-1	4,6-Dinitro-2-Methylphenol	600	< 600 U
ココキーコマニエ	a'o printeno-z-meenArbitenor	500	< 600 0



ORGANICS ANALYSIS DATA SHEET Semivolatiles by SW8270D GC/MS Page 2 of 2

Sample ID: G-RS5SSED-0-090809

SAMPLE

Lab Sample ID: PN69A

LIMS ID: 09-21001

Matrix: Soil

Date Analyzed: 09/15/09 12:39

QC Report No: PN69-Golder Associates

Project: Avery Landing

073-93312-03

CAS Number	Analyte	RL	Result
86-30-6	N-Nitrosodiphenylamine	60	< 60 U
101-55-3	4-Bromophenyl-phenylether	. 60	< 60 U
118-74-1	Hexachlorobenzene	60	< 60 Ŭ
87 - 86-5	Pentachlorophenol	300	< 300 U
85-01-8	Phenanthrene	60	< 60 U
86-74-8	Carbazole	60	< 60 U
120-12-7	Anthracene	- 60	< 60 Ŭ
84-74-2	Di-n-Butylphthalate	60	< 60 U
206-44-0	Fluoranthene	60	< 60 U
129-00-0	Pyrene	60.	< 60 U
85-68-7	Butylbenzylphthalate	60	< 60 Ŭ
91-94-1	3,3'-Dichlorobenzidine	300	< 300 U
56-55-3	Benzo(a)anthracene	60	< 60 U
117-81-7	bis(2-Ethylhexyl)phthalate	60	< 60 U
218-01-9	Chrysene	60	< 60 U
117-84-0	Di-n-Octyl phthalate	60	< 60 U
205-99-2	Benzo(b)fluoranthene	60	< 60 U
207-08-9	Benzo(k) fluoranthene	60	< 60 U
50-32-8	Benzo(a)pyrene	60	< 60 U
193-39-5	Indeno(1,2,3-cd)pyrene	60	< 60 U
53-70-3	Dibenz(a,h)anthracene	60	< 60 U
191-24-2	Benzo(g,h,i)perylene	60	< 60 Ŭ
90-12-0	1-Methylnaphthalene	60	< 60 U

Reported in $\mu g/kg$ (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	67.2%	2-Fluorobiphenyl	81.2%
d14-p-Terphenyl	78.4%	d4-1,2-Dichlorobenzene	73.2%
d5-Phenol	64.5%	2-Fluorophenol	58.9%
2,4,6-Tribromophenol	82.9%	d4-2-Chlorophenol	63.7%



ORGANICS ANALYSIS DATA SHEET PNAs by SIM SW8270D-SIM GC/MS Page 1 of 1

Sample ID: G-RS5SSED-0-090809 SAMPLE

Lab Sample ID: PN69A LIMS ID: 09-21001

Matrix: Soil Data Release Authorized: Reported: 09/22/09

QC Report No: PN69-Golder Associates Project: Avery Landing Event: 073-93312-03

Date Sampled: 09/08/09 Date Received: 09/10/09

Date Extracted: 09/14/09 Date Analyzed: 09/17/09 13:50 Instrument/Analyst: NT8/YZ

GPC Cleanup: No.

Silica Gel Cleanup: Yes Alumina Cleanup: No

Sample Amount: 10.8 g-dry-wt

Final Extract Volume: 0.5 mL Dilution Factor: 1.00 Percent Moisture: 25.1%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.6	< 4.6 U
91-57-6	2-Methylnaphthalene	4.6	6.0
90-12-0	1-Methylnaphthalene	4.6	< 4.6 U
208-96-8	Acenaphthylene	4.6	< 4.6 U
83-32-9	Acenaphthene	4.6	< 4.6 U
86-73-7	Fluorene	4.6	5.1
85-01-8	Phenanthrene	4.6	8.3
120-12-7	Anthracene	4.6	< 4.6.U
206-44-0	Fluoranthene	4.6	7.9
129-00-0	Pyrene	4.6	59
56-55-3	Benzo(a) anthracene	4.6	< 4.6 Ü
218-01-9	Chrysene	4.6	28
205-99-2	Benzo (b) fluoranthene	4.6	8.3
207-08-9	Benzo(k) fluoranthene	4.6	8.3
50-32-8	Benzo (a) pyrene	4.6	18
193-39-5	Indeno(1,2,3-cd)pyrene	4.6	6.5
53-70-3	Dibenz(a,h)anthracene	4.6	< 4.6 U
191-24-2	Benzo(g,h,i)perylene	4.6	17
132-64-9	Dibenzofuran	4.6	< 4.6 U
			and the second s

Reported in $\mu g/kg$ (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 67.7% d14-Dibenzo(a,h)anthracen 85.0%

MW 5-11-10

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720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-983 MEMORANDUM

DATE:

May 11, 2010

TO:

Steve Hall, START-3 Project Manager, E & E, Seattle, WA

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review,

Avery Landing Site, Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of one soil sample collected from the Avery Landing site located in Avery, Idaho, has been completed. Analysis for Polychlorinated Biphenyls (PCBs; EPA Method 8082) was performed by Analytical Resources, Inc., Tukwila, Washington. The sample was numbered: G-RS5SSED-0-090809.

Data Qualifications:

1. Sample Holding Times: Acceptable.

The sample was maintained and received within the QC limits of < 6°C. The sample was collected on September 8, 2009, was extracted on September 14, 2009, and was analyzed by September 16, 2009, therefore meeting QC criteria of less than 14 days between collection and sample extraction and less than 40 days between extraction and analysis.

2. Instrument Performance: Not Provided.

Instrument performance information was not provided.

3. Initial and Continuing Calibration: Not Provided.

Calibration information was not provided. The case narrative indicated that all calibration results were acceptable.

4. Error Determination: Not Provided.

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

5. Blanks: Acceptable.

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and for each concentration level, or every 20 samples, whichever is greater, and for each analytical system. No target analytes were detected in any blanks.

6. Performance Evaluation Samples: Not Provided.

Performance evaluation samples were not provided to the laboratory.

7. System Monitoring Compounds (SMCs): Acceptable.

All recoveries of the SMCs were within the established control limits.

8. Blank and Matrix Spikes: Acceptable.

Recoveries of all spiked analytes were within the appropriate control limits.

9. Duplicates: Acceptable.

Relative Percent Differences (RPDs) of all spiked analytes were within the required control limits.

10. Compound Identification: Not Provided.

Compound identification information was not provided.

11. Target Compound Quantitation and Quantitation Limits: Not Provided.

Quantitation and quantitation limit calculation information was not provided.

12. Laboratory Contact

No laboratory contact was required.

13. Overall Assessment

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- JN The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- N The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification".
- R The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.



ORGANICS ANALYSIS DATA SHEET PCB by GC/ECD Method SW8082 Page 1 of 1

Sample ID: G-RS5SSED-0-090809 SAMPLE

Lab Sample ID: PN69A LIMS ID: 09-21001

Matrix: Soil

Data Release Authorized:

Reported: 09/17/09

QC Report No: PN69-Golder Associates

Project: Avery Landing

073-93312-03

Date Sampled: 09/08/09 Date Received: 09/10/09

ace Received: 09/10/09

Sample Amount: 12.8 g-dry-wt

Final Extract Volume: 4.0 mL Dilution Factor: 1.00 Silica Gel: No

Percent Moisture: 25.1%

Date Extracted: 09/14/09

Date Analyzed: 09/16/09 21:28 Instrument/Analyst: ECD5/JGR

GPC Cleanup: No Sulfur Cleanup: Yes Acid Cleanup: Yes Florisil Cleanup: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	31	< 31. U
53469-21-9	Aroclor 1242	31	< 31 U
12672-29-6	Aroclor 1248	31	< 31 U
11097-69-1	Aroclor 1254	31	< 31 Ŭ
11096-82-5	Aroclor 1260	31	< 31 U
11104-28-2	Aroclor 1221	31	. < 31 U
11141-16-5	Aroclor 1232	31	< 31 U

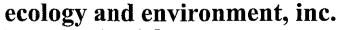
Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	82.8%
Tetrachlorometaxylene	75.8%

MW 5-11-10

FORM I





International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE:

May 11, 2010

TO:

Steve Hall, START-3 Project Manager, E & E, Seattle, WA

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review,

Avery Landing Site, Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of one soil sample collected from the Avery Landing site located in Avery, Idaho, has been completed. Analysis for Extended Diesel Range Total Petroleum Hydrocarbons (Ecology Method NWTPH-Dx) was performed by Analytical Resources, Inc., Tukwila, Washington.

The sample was numbered:

G-RS5SSED-0-090809

Data Qualifications:

1. Sample Holding Times: Acceptable.

The sample was maintained and received within the QC limits of < 6°C. The sample was collected on September 8, 2009, extracted on September 14, 2009, and analyzed on September 15, 2009, therefore meeting QC criteria of less than 14 days between collection and extraction for soil samples, and less than 40 days between extraction and analysis.

2. Initial Calibration: Not Provided.

Initial calibration information was not provided. The case narrative indicated that all initial calibration results were acceptable.

3. Continuing Calibration: Not Provided.

Continuing calibration information was not provided. The case narrative indicated that all initial calibration results were acceptable.

4. Error-Determination:-Not-Performed.

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

5. Blanks: Acceptable.

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- and motor oil-range TPHs were not detected in any blank.

6. System Monitoring Compounds (SMC): Acceptable.

All recoveries of the SMCs were greater than 10% and within QC criteria.

7. Performance Evaluation Samples: Not Provided.

Performance evaluation samples were not provided to the laboratory.

8. Matrix and Blank Spikes: Acceptable.

Matrix and blank spike results were within QC limits except the case narrative indicated that the diesel matrix spike duplicate result was outside QC limits; no action was taken based on this.

9. Duplicates: Acceptable.

Duplicate results were acceptable.

10. Quantitation and Quantitation Limits: Acceptable.

Sample concentrations were correctly calculated.

11. Laboratory Contact: Not Required.

No laboratory contact was required.

12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004) and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- R The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.



ORGANICS ANALYSIS DATA SHEET TOTAL DIESEL RANGE HYDROCARBONS

NWTPHD by GC/FID-Silica and Acid Cleaned

Page 1 of 1

Matrix: Soil

QC Report No: PN69-Golder Associates

Project: Avery Landing

073-93312-03

Data Release Authorized: Reported: 09/17/09

ARI ID	Sample ID	Extraction Date	Analysis Date	efv Dl	Range	RL	Result
MB 091409	Method Blank	09/14/09	09/15/09	1.00	Diesel	5.0	< 5.0 U
09-21001	HC ID:		FID3A	1.0	Motor Oil o-Terphenyl	10	< 10 U 97.78MV
PN69A	G-RS5SSED-0-090809	09/14/09	09/15/09	1.00	Diesel	6.7	63
09-21001	HC ID: DIESEL/MOTOR	OIL	FID3A	1.0	Motor Oil o-Terphenyl	13	79 85.2%

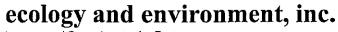
Reported in mg/kg (ppm)

EFV-Effective Final Volume in mL. DL-Dilution of extract prior to analysis. RL-Reporting limit.

Diesel quantitation on total peaks in the range from C12 to C24. Motor Oil quantitation on total peaks in the range from C24 to C38. HC ID: DRO/RRO indicate results of organics or additional hydrocarbons in ranges are not identifiable.

FORM I

MV5-11-10





International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE:

May 11, 2010

TO:

Steve Hall, START-3 Project Manager, E & E, Seattle, WA

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Inorganic Data Quality Assurance Review,

Avery Landing Site, Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of one soil sample collected from the Avery Landing site located in Avery, Idaho, has been completed. Analysis for Target Analyte List (TAL) metals (EPA 6000 and 7000 series methods) was performed by Analytical Resources, Inc., Tukwila, Washington.

The sample was numbered:

G-RS5SSED-0-090809

Data Qualifications:

1. Sample Holding Times: Acceptable.

The sample was maintained and received within the QC limits of < 6°C. The sample was collected on September 8, 2009, and was analyzed by September 18, 2009, therefore meeting QC criteria of less than 6 months between collection, extraction, and analysis (28 days for mercury).

2. Initial and Continuing Calibration: Not Provided.

Calibration information was not provided. The case narrative indicated that all calibration results were acceptable.

3. Blanks: Acceptable.

A preparation blank was analyzed for each 20 samples or per matrix per concentration level. Blanks were analyzed after each Initial or Continuing Calibration Verification. There were no detections in any blanks.

4. ICP-Interference-Check-Sample:-Not-Provided:-

Interference Check Sample (ICS) information was not provided.

5. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

6. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

7. ICP Serial Dilution: Not Provided.

Serial dilution information was not provided.

8. Matrix Spike Analysis: Not Provided.

Matrix spike information was not provided.

9. Duplicate Analysis: Not Provided.

Laboratory duplicate analysis information was not provided.

10. Laboratory Control Sample Analysis: Acceptable.

A Laboratory Control Sample (LCS) was analyzed per SDG per matrix. All LCS results were within the established control limits.

11. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample detection limits but greater than the instrument detection limits or because quality control criteria limits were not met.
- R The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.



INORGANICS ANALYSIS DATA SHEET

TOTAL METALS

Page 1 of 1

Sample ID: G-RS5SSED-0-090809

SAMPLE

Lab Sample ID: PN69A LIMS ID: 09-21001

Matrix: Soil

Data Release Authorized: N

Reported: 09/22/09

Percent Total Solids: 70.9%

QC Report No: PN69-Golder Associates

Project: Avery Landing 073-93312-03

Date Sampled: 09/08/09 Date Received: 09/10/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
							——————————————————————————————————————	<u>*</u> 2
3050B	09/11/09	6010B	09/18/09	7429-90-5	Aluminum	7	9,840	
3050B	09/11/09	200.8	09/14/09	7440-36-0	Antimony	0.3	0.3	Ū
3050B	09/11/09	200.8	09/14/09	7440-38-2	Arsenic	0.3	9.6	
3050B	09/11/09	6010B	09/18/09	7440-39-3	Barium	0.4	44.7	
3050B	09/11/09	6010B	09/18/09	7440-41-7	Beryllium	0.1	0.3	
3050B	09/11/09	6010B	09/18/09	7440-43-9	Cadmium	0.3	0.3	ט
3050B	09/11/09	6010B	09/18/09	7440-70-2	Calcium	7	1,690	
3050B	09/11/09	6010B	09/18/09	7440-47-3	Chromium	0.7	8.9	•
3050B	09/11/09	6010B	09/18/09	7440-48-4	Cobalt	0.4	6.7	
3050B	09/11/09	6010B	09/18/09	7440-50-8	Copper	0.3	20.4	
3050B	09/11/09	6010B	09/18/09	7439~89-6	Iron	7	18,300	
3050B	09/11/09	6010B	09/18/09	7439-92-1	Lead	3	12	
3050B	09/11/09	6010B	09/18/09	7439~95-4	Magnesium	7	5,480	
3050B	09/11/09	6010B	09/18/09	7439-96-5	Manganese	0.1	178	
CLP	09/11/09	7471A	09/12/09	7439~97-6	Mercury	0.03	0.03	Ū
3050B	09/11/09	6010B	09/18/09	7440-02-0	Nickel	1	12	
3050B	09/11/09	6010B	09/18/09	7440~09-7	Potassium	70	1,710	
3050B	09/11/09	200.8	09/14/09	7782-49-2	Selenium	0.7	0.7	Ū
3050B	09/11/09	7761	09/18/09	7440-22-4	Silver	0.03	0.03	ט
3050B	09/11/09	6010B	09/18/09	7440~23-5	Sodium	70	80	
3050B	09/11/09	200.8	09/14/09	7440-28-0	Thallium	0.3	0.3	Ü
3050B	09/11/09	6010B	09/18/09	7440~62-2	Vanadium	Ò.4	18.9	
3050B	09/11/09	6010B	09/18/09	7440-66-6	Zinc	1	37	

U-Analyte undetected at given RL RL-Reporting Limit

FORM-I



ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE:

May 12, 2010

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington 71 W

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of two samples collected from the Avery Landing site in Avery, Idaho, was performed by Golder Associates, Inc., Redmond, Washington. The validation was performed as listed in the Tier III and IV Data Validation Summary Checklist (attached). Target analyte list (TAL) metals (EPA Methods 200.8, 6010B, 7471A, and 7761) and semivolatile organic compounds (SVOCs; EPA Method 8270-SIM) analyses were performed by Analytical Resources, Inc., Tukwila, Washington.

The samples were numbered:

G-GA3S-090309

G-RS5SSED-0-090809

See the attached Checklists and associated data results pages provided by Golder Associates.

ORGANIC ANALYTE - Tier I & II Data Validation Summary Checklist

GOLDER PROJECT #: 073-93312.05		SITE: Avery Landing/ POTLATCH / Idaho			
LABORATORY: Analytical Resources, Inc.		SDG: PN-10, PN-14, PN-53 & PN-54			
SAMPLES	Collec	ot:	MATRIX		
G-GA-35-090309 (PN-10)		090309,	Water		
# G-RS-3SSW-090609 (PN-53)		090609	Water		
* G-RS-5SSED-0-090809 (PN-53)		090809	Soil		
		· · · · · · · · · · · · · · · · · · ·			

DATA ASSESSMENT SUMMARY

Validated by:

							*
REVIEW ITEM	VOA	BNA	Pest /	Chlor /	TPH	OTHER	OTHER
			PCB	Herb.	Diesel-x	- 本	PAH
•	8260	8270	8082		NWIPH	Total	(Simi)
Data Completeness	0					<u> </u>	\overline{C}
2. Holding Times	0	0					0
3. Eield Blanks CALIBRATE							$\overline{\mathbf{x}}^{\prime}$
4. Laboratory Blanks							3
5. Surrogates	0					-	0
6. Lab Duplicate, Field Duplicate						-	
7. LCS, Blank Spike (2)	(3)	0				+	X®
8. Matrix Spike /MS Duplicate	-		0		<u> </u>	-	0
9. Result Verify, Detection Limits 3			0			0	3
10. Overall Summary					0	0	0

O = Data had no problems	⊖ = Problems, but do not affect data
X = Data qualified due to minor prob	lems [typically estimated data (J or UJ)].
	lems [typically more than 50% qualified (I/UJ).
Z = Data unacceptable [typically data	
for Benzo(gh.) AS (2) RPD of LOS/LOSI For Sample B-C (3) VOA CMANDS 123	(1) Calib data assoc. w/6-GA-35 out of limit soc. result Qualif. (US). sout of limit: Napthalone & ZMeth Naph-qualif. (J) A-35#. QUALIF. REPORT PAGE ATTAICHED.
do not meet nos	eds of Regulatory Screen Oriteria - NO QUALIF.
THE PROPERTY OF THE	COLD TO THE TOTAL OF THE TOTAL
35VOA compads Di Screen criteri	benz(a,h). + B(a)P donot meet needs of Regulat. 2-NO QUALIF Applied.
	
	

Date: Nov. 6, 2009

ORGANIC ANALYTE - Tier I & II Data Validation Summary Checklist

Acceptable:

			YE8	NO
1. Date Package Completeness (Ch	neck if present).		12	
Case narrative	√ _{Bla}	nk Results		
<u></u> Chain of Custody	Z Şu	rogate Results	/ Acceptable	
✓Sample Results ✓Detection Limits		rnal Standards /MSD, LCS Resuits	x Absent o Not required for	
¥ GC/MS Tuning		paration Logs	data package	
Initial Calibration		ilysis Run Logs v Data	requested.	
<u>V</u> Continuing Calib.	Ofh			
CALL	B. OA	<u>C 8 - </u>	61700	1 0000
Comments/Qualified Results:	IERZ: CCA	L for Benzi	2 (2 M 1 - 6 1)	1 40-15A-5
Wesult quality (J).		·		
C Au	0			
SOIL: Colib limits	Ston V.C.	doride # Br	amafara be	-low (25
DUSDIT max NO BU	PUE AMA	1 Ca- 1/04	- CIVAN S	Hac Cm
	HOLE MANUEC	HOW NUA	3 SVIH , 3	ODC-31M
PCB TPH				
		,		
2. Holding Times (Check all that app	oly)		b	
		<i>/</i> ·		
Unpreserved VOA analyzed in 7 days from college BNA samples extracted within 7 days (14 day soil			5 - 6 - 7 - 8 -	
BNA extracts analyzed within 40 days of collectio		E IPH Des	selextx7da	1/2
Pest/PCBs samples extracted within 7 days (14 d		+G-RS5	-SSED (SOL)	
Pest/PCBs extracts analyzed within 40 days of co Qualify as estimated (J/UJ) all results analyzed past	t hold time limits, but	-	-	
detects as (J) and non-detects as (UR).	Sample G-G		uple G-RS-3	
Comments/Qualified Results:	7	100	Carlo	
Collect	<u> Pred</u>	Hualysia	ZYACK	
BNA(8270) 9/3 9/06	7/07 #9/10	*9/09#9(15	4.4	V (<7)
PCB (RAS)	9/08 9/11	9/11 9/14	58	V(<7)
ALL TOUR DE VI	1/07 9/10	9/07 9/	41 1 V	/kz\
	9/16	9/	50	
VOC (8260) YOS		<i>Q</i> /	<u>8 Llays</u>	(2,147
SVOC (8270)	9/14	9/15	$\frac{67}{}$	<u>(< 7)</u>
- SUDA-SIM Y	9/14	917	6	(5 ,7)
3. Field Blanks, Storage Blanks (VO	A only) (Check	all that apply)	6 ₀ +1	
Storage Blanks; prepared upon receipt of sampleStorage Blanks; Target Cmpnds <rl,< td=""><td>set, FI</td><td>ELD BLANK ID:</td><td></td><td></td></rl,<>	set, FI	ELD BLANK ID:		
MeCl2 & cyclohex (<10X RLs); Acetone, 2-butano				
All blanks; Non-Target Cmpnds must be < 2.0 ug/ Field Blanks; Qualification is advisory, but should		ort Toyt		
	xamples:		00	
Comments/Qualified Results: Field	13 iomks r	of availab	sle for this	<u> </u>
			<u> </u>	

ORGANIC ANALYTE - Tier I & II Data Validation Summary Checklist

	•	Acce	ptable:	Yes	NO
4. Laboratory Blanks (Check all that ap	oply)		,		
Method Blanks, Prep.Blanks analyzed after Cal Stnd Method Blanks; Target Cmpnds <rl, &="" 2.0="" <="" <5x="" accord="" after="" all="" be="" blanks="" blanks;="" cm="" cmpnds="" contaminants:="" cycle="" high="" instrument="" l<="" level="" mecl2="" must="" non-target="" other="" qualif.="" results="" rls="" samples,="" td="" ug=""><td>is and every 12 ohex (<10X RLs ding to Chart be</td><td>); Acetone, 2-buta ow</td><td>none (<2X</td><td>RLs); Chart</td><td></td></rl,>	is and every 12 ohex (<10X RLs ding to Chart be); Acetone, 2-buta ow	none (<2X	RLs); Chart	
·	mples:	BLANK		SAMPLE	Q
Comments/Qualified Results:		MDL Result	PQL	Result	Applied
BNA: MB-090709~		0.3 0.45 0.3 0.99	1.0	0,8 1.8	1.0 U 1.8 J
VOC: MB-091009V		0.3 1.5 0.3 1.5	1.0 1.0	1.1 1.8	1.5 U 1.8 J
VOA: MB 091609 ASSOC G-	RS555E	0.3 0	1.0 1.0	0.85	0.85 J 1.8
SV04: MB091409 " "	. 'L.	PAH-SIN	0907		1,0
SUOA-SIM " NOK.) (>CB -0909		911094	
PCB : MB091409 V	\ T	PH-0907		11009	
TPH-Du : 11			-	<u> </u>	
11(1)					
			 .		
5. Surrogates (Check all that apply)			• • • • • • • • • • • • • • • • • • • •	it/	
Surrogates analyzed Recoveries within Method Control (lab) limits (VOA: 8 Recoveries above Method Control limits (J-detects on	nly) 🕩	H 50-150) દે	0-150%)	
Recoveries below Method Control limits but>20% (J/L Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results	, J/ UJ or UR to	r SVOA, JIOK TOF		<u> </u>	<u>.</u>
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results	3/ J OJ OF UR 10	PA-D, 8	9% /		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 : RAM PC		P4-D, 8	9%/		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 : RAN PC		PH-D* 8	9% / 7.5 /		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 * BNA PC		PH-D, 8 >H-D, 9; hm, PCB	9%/ 25/ TPH		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 * BNA PC		PH-D, 8 >H-D, 9; hm, PCB	9%/ 7.5/ TPH		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 * BNA PC		PH-D, 8 PH-D, 9; M, PCB	9%/ 7.5/ TPH		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 : BNA PC	BV TI	PH-D _* 8 >H-D _* 9; um, PCB	9%/ 75/ TPH		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 : BAM FCC G-RS-355W : BNA PCC G-RS55SSED : VOA SVOC	Suba-Suba-Suba-Suba-Suba-Suba-Suba-Suba-	PH-D, 8 24-D, 93 m, PCB	Parent III		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 : BAN PCI G-RS-355W : BNA PCI G-RS55SSED : VOA SVOC 6. Duplicate, Field Duplicates (Check a Duplicate RPD <20% for waters (<35% for soils) for re Duplicate range is within ±CRDL (±2X CRDL for soils) Field duplicate RPD <20% (<35% for soils)	Suba-Suba-Suba-Suba-Suba-Suba-Suba-Suba-	PH-D, 8 24-D, 93 m, PCB	Parent IE		
Recoveries below 20%, 10% for PEST (J/UR for VOA Comments/Qualified Results G-GA-35 : BNA PCI G-RS-355W : BNA PCI G-RS-355W : VOA SVOC 6. Duplicate, Field Duplicates (Check a Duplicate RPD <20% for waters (<35% for soils) for re Duplicate range is within ±CRDL (±2X CRDL for soils) Field duplicate RPD <20% (<35% for soils)	Suba-Suba-Suba-Suba-Suba-Suba-Suba-Suba-	PH-D, 8 24-D, 93 m, PCB	Parent IE		

	ORGANIC ANALYTE - Tier I & II Data Validation Summary Checklist
	Acceptable: Yes NO
	7. Lab Control Samples, Blank Spikes (Check all that apply)
	(1) LCS %R 80-120% [Provided: LCS, LCSD, BS, BSD?] (1) G-R\$5\$\$ED* LCS %R 50-79% or >120%, results >IDL estimated (J) (2) G-GA 35 (G-R\$5\$\$SW# LCS %R 50-79% and results <idl (uj)<br="" estimated="">LCS %R <50% and all results rejected (R/UR)</idl>
*	Comments/Qualified Results: (1) LCS/LCSD ARI(5/01/09) Acceptance Limits met for: VOA(8260) SUOA(8270) SUOC-PAH TPH-D.
↓	PCB (2) Naphal & IM-Naph. RPD out. Assoc. w#G-GA-35 is #
O	Qualif. (=). PCB 690809 091109" TPH 090709 091609"
Œ.	V STORY DINGS
	8. MS / MSD Recovery on samples for associated Data Package MS/MSD Recovery data is not specified in Functional Guidelines, however the following limits will be advisory.
	1 MS/MSD %R 80-120% SPIKED SAMPLE IDS: G-RS 5555ED MS/MSD %R 50-79% or >120%, results >IDL estimated (J)
	MS/MSD %R 50-79% and results <idl %r="" (r="" (uj)ms="" <50%="" all="" and="" estimated="" msd="" rejected="" results="" td="" ur)<=""></idl>
k	Comments/Qualified Results: 1-Acceptance Limit Criteria Published
1	by Lab is effective 5-01-09; in Lab established criteria
	is met for SVOA(8270), SVOC (82705111), PCB (8082),
	MS/MSD-Not required for NWTPH =NO QUAL.
	"/" - Not provided for VOA(8260) analys: No Qualit
V	apred.
	9. Result Verification, Detection Limits
	SUOT (8270) - Dibence Wand BEDP do not meet GAAP.
	PCB (8082) - OKY SMOCGIM) FAH'S - OKY, TPH-Dx-OKY
	10. Overall Assessment
	Comments/Qualified Results:



ORGANICS ANALYSIS DATA SHEET PNAs by Low Level SW8270D-SIM GC/MS Page 1 of 1

Sample ID: G-GA3S-090309

SAMPLE

Lab Sample ID: PN10A

LIMS ID: 09-20720

Matrix: Water

Data Release Authorized:

Instrument/Analyst: NT2/PK

Reported: 09/10/09

QC Report No: PN10-Golder Associates

Project: Avery Landing

Event: 073-93312

Date Sampled: 09/03/09

Date Received: 09/04/09

Date Extracted: 09/07/09 Sample Amount: 500 mL
Date Analyzed: 09/09/09 21:02 Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

CAS Number	Analyte	RL	Result G	
91-20-3	Naphthalene	0.010	0.045	-
91-57-6	2-Methylnaphthalene	0.010	0.015 J	
90-12-0	1-Methylnaphthalene	0.010	0.018	
208-96-8	Acenaphthylene	0.010	< 0.010 U	
83-32-9	Acenaphthene	0.010	0.016	
86-73-7	Fluorene	0.010	< 0.010 U	
85-01-8	Phenanthrene	0.010	< 0.010 U	
120-12-7	Anthracene	0.010	< 0.010 U	
206-44-0	Fluoranthene	0.010	< 0.010 U	
129-00-0	Pyrene	0.010	< 0.010 U	
56-55-3	Benzo(a) anthracene	0.010	< 0.010 U	
218-01-9	Chrysene	0.010	< 0.010 U	
205-99-2	Benzo(b) fluoranthene	0.010	< 0.010 U	
207-08-9	Benzo(k) fluoranthene	0.010	< 0.010 U	
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U	
193-39-5	Indeno (1,2,3-cd) pyrene	0.010	< 0.010 U	
53 <i>-</i> 70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U	
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 F UJ	
132-64-9	Dibenzofuran	0.010	< 0.010 U	

Reported in $\mu g/L$ (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene 61.3%

dl4-Dibenzo(a,h)anthracene 82.0%

PN10:00024

JOHN TRUINCI W. 613-733	2.05	GOLDER PROJECT #: 073-93312.05 SITE: Av				Idaho
ABORATORY: Analytical Res	ources, Inc.	. S	DG: PN-10, P	N-14, PN-	-53 & PN-54	
SAMPLES	Collec				N	IATRIX
G-GA-35-090309 (PN-10)	4	090309				Water
G-RS-3SSW-090609 (PN-53)	#	090609				Water
3-RS-5SSED-0-090809 (PN-53) +	090809				Soil
Throughand dock		cklists	designate	South	≥ ↑ .	
<u> </u>					<u> </u>	
						
		<u></u>			·	
				-		
	DATA ASSES	SMENT SU	MMARY			
REVIEW ITEM	ICP/ AES	ICP/ MS	Hg/ Se	CN	Anions	OTHER
	EMA 6010] -		1244	
Data Completeness		0	0			
Holding Times						
Calibration						
Blanks		\mathcal{Q}				
Lab Duplicate, Field Duplicate RPD					ļ	
LCS, Blank Spike, MFS		\mathcal{L}				
Matrix Spike, MSD GFAA, MSA (Serial Dil.)		\sim				
					 	
Detection Limits, Other QC (1) (2) Data Verification,						
Overall Summary					* *	
-	Ο	out do not affe	et data			
Data had no problems	$\nabla T = Problems. I$	300 CO 300 SCIE				

_		_				
n	⋍	Data	had	no	nro	olems

Comments/Quali	ified Results:	1 As v	epart lin	int was	above re	gulatory of the reg opled.
SCLEEN	critei	ria. How	ever Sa	unble res	ults abou	e the req
Screen	Criter	a and 1	NO QU	ALIF APP	LIFD.	
2) Hado	es not w	neet Req. 1	Screen Li	mit-No a	QUALIF.A.	Mèd.
_			•		,	
(3) Ni Se	erial Dilu	trà exce	eds 10%	. Assoc. 5	icil result	Qualif. (J)
		· · · · · ·				
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	_/_1					
					·	····
Validated by:	lone	XT. NON	i. I	Date	: Nov. 3	2009
Reviewed by:		7//		Date		
	T	\mathcal{O}^{\prime}		•		•
	, .					

Acceptable: YES NO Date Package Completeness (Check if present)...... ∕£ase narrative ✓ Instrument Det. Limits / Acceptable Chain of Custody ICP Correction Factors x Absent Sample Results ✓ICP Linear Ranges o Not required for ✓ ICV/CCV Results data package **7**B∣ank Results Analysis Run Logs requested, **V**ICP Raw Data VCP Interference Check Results T&S ✓ Spike Recovery Results GFAA Raw Data Duplicate Results LCS Results **⊮**Hg Raw Data Cyanide Raw Data Standard Addition Results Other ✓ICP Serial Dilution Comments/Qualified Results: * Z * IPO91821 * INSA9148 2. Holding Times (Check all that apply)... <u>VoP/GFAA</u> metals completed in <6 months from collection Mercury analyzed in <28 days from collection Cyanide completed in 14 days from collection Comments/Qualified Results: 6010 Calibrations (Check all that apply)... # Water Analysis +Scil Analysis ICV/CCV %R for ICP/AA, 90%-110%, acceptable ICV/CCV %R for Hg, 65%-79% or 121%-135%, _ICV/CCV %R for ICP/AA, 75%-89% or 111%-125%. results estimated (J/UJ) results estimated (J/UJ) ICV/CCV %R 85-115% for Cyanide, results acceptable _ICV/CCV %R for ICP/AA, <75% or >125%, reject positiye results (R) ICV/CCV %R 70-84% or 116-130%, results IØV/CCV %R 80-120% for Hg, results accepted estimated (J/UJ) CRDL Check Stnd %R 70 - 130, (50-150 SbPbTI) _ICV/CCV %R <70% or >130%, reject pos results (R) Comments/Qualified Results

METALS & INORGANIC / Tier I & II Data Validation Summary Checklist

Acceptable: 4. Blanks (Check all that apply). # PNIO WATERIMATRIX Detects reported in ICB/CCB list: #DN 53 Detects in preparation blanks, list: o Field Blank submitted. Detects in field blanks, list + PN69 SOIL MONTHIX Qualified as undetected (U) all sample concentrations ≤10X any associated blank concentrations and less than the PQL, or J+ for samples greater than the PQL. 5. Duplicates (Check all that apply)..... Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X CRDL Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CRDL __Duplicate range is Field Duplicate ID Comments/Qualified Results 7. Laboratory Control Samples, Blank Spikes (Check all that apply)... LCS %R 80-120%, [50-150% for Ag, Sb] LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <IDL estimated (UJ) LCS %R <50% and all results rejected (R/UR) Sample associated

METALS & INORGANIC / Tier I & II Data Validation Summary Checklist

P. Switz-Bassyaw (Obsole all that and to
8. Spike Recovery (Check all that apply)
✓ Spike %R with 75-125%Spike %R <30%, results <idl (ur)<="" rejected="" th="">_ Spike %R 30-74%, >125%, results > IDL est. (J)_ Field blanks used for spike analysis_ Spike %R 30-74% results <idl (uj)<="" estimated="" td="">_ Post digest spk rqrd: %R 75-125%, excpt Ag</idl></idl>
Comments/Qualified Results: PN-10 : 6010 \$ 7470A on Sample:
Q-RS358W ; G-G#35
9. GFAA Performance, MSA, or Serial Dilutions
Duplicate injection RSD <20%Duplicate injection RSD >20%, results > CRDL estimated (J) Analytical spike %R 85-115%
Analytical spike %R 40-85%, results > IDL estimated (J)Analytical spike %R 10-40%, results <idl %r="" (r)<="" (uj)analytical="" <10%,="" <idl="" estimated="" rejected="" results="" spike="" td=""></idl>
Comments/Qualified Results: SerDilon G-GASS SDiff. PN-10;
Ser. D: (on 6-R5355W & D: A. PN-53 V.
Ser Dil on G-RS5S-SED: Niout of limit. Qualif. (I).
10. Detection Limits, Other QC
Comments/Qualified Results: PN10: As Vigulat Screen level @ 0.045 ug
lab reports 67 usl
WAS 18 201 (3 D. 2 2097 E
8 D. V. V. V. 1
PN-69A: Hg reg. limit @ 0.0051 mg/kg, 0.020 reported PL.
11. Data Verification and Overall Assessment
11. Data vernication and Overall Assessment
Comments/Qualified Results:

METALS & INORGANIC / Tier I & II Data Validation Summary Checklist



INORGANICS ANALYSIS DATA SHEET TOTAL METALS

Page 1 of 1

Lab Sample ID: PN69A LIMS ID: 09-21001

Matrix: Soil

Data Release Authorized: N

Reported: 09/22/09

Percent Total Solids: 70.9%

Sample ID: G-RS5SSED-0-090809

SAMPLE

QC Report No: PN69-Golder Associates

Project: Avery Landing 073-93312-03

Date Sampled: 09/08/09 Date Received: 09/10/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	09/11/09	6010B	09/18/09	7429-90-5	Aluminum	. 7	9,840	
3050B	09/11/09	200.B	09/14/09	7440-36-0	Antimony	0.3	0.3	Ū
3050B	09/11/09	200.B	09/14/09	7440-38-2	Arsenic	0.3	• 9.6	
3050B	09/11/09	6010B	09/18/09	7440-39-3	Barium	0.4	44.7	
3050B	09/11/09	6010B	09/18/09	7440-41-7	Beryllium	0.1	0.3	
3050B	09/11/09	6010B	09/18/09	7440-43-9	Cadmium	0.3	√ 0.3	Ū
3050B	09/11/09	6010B	09/18/09	7440-70-2	Calcium	. 7	1,690	
3050B	09/11/09	6010B	09/18/09	7440-47-3	Chromium	0.7	8.9	
3050B	09/11/09	6010B	09/18/09	7440-48-4	Cobalt	0.4	6.7	
3050B	09/11/09	6010B	09/18/09	7440-50-8	Copper	0.3	20.4	
3050B	09/11/09	6010B	09/18/09	7439-89-6	Iron	7	18,300	
3050B	09/11/09	6010B	09/18/09	7439-92-1	Lead	3	12	
3050B	09/11/09	6010B	09/18/09	7439-95-4	Magnesium	7	5,480	
3050B	09/11/09	6010B	09/18/09	7439-96-5	Manganese	0.1	178	
CLP	09/11/09	7471A	09/12/09	7439-97-6	Mercury	0.03	0.03	U
3050B	09/11/09	6010B	09/18/09	7440-02-0	Nickel	· 1	12	3
3050B	09/11/09	6010B	09/18/09	7440-09-7	Potassium	70	1,710	_
3050B	09/11/09	200.8	09/14/09	7782-49-2	Selenium	0.7	0.7	Ü
3050B	09/11/09	7761	09/18/09	7440-22-4	Silver	0.03	0.03	U
3050B	09/11/09	6010B	09/18/09	7440-23-5	Sodium	70	80	
3050B	09/11/09	200.8	09/14/09	7440-28-0	Thallium	0.3	0.3	U
3050B	09/11/09	6010B	09/18/09	7440-62-2	Vanadium	0.4	18.9	
3050B	09/11/09	6010B	09/18/09	7440-66-6	Zinc	1	37	

U-Analyte undetected at given RL RL-Reporting Limit

FORM-I

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ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE:

May 12, 2010

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of 15 samples collected from the Avery Landing site in Avery, Idaho, was performed by Golder Associates, Inc., Redmond, Washington. The validation was performed as listed in the Tier III and IV Data Validation Summary Checklist (attached). Polychlorinated biphenyl (PCB; EPA Method 8082), diesel-range total petroleum hydrocarbons (Method NWTPH-Dx), and semivolatile organic compounds (SVOCs; EPA Method 8270-SIM) analyses were performed by Test America, Spokane Valley, Washington.

The samples were numbered:

G-BH1-Surf-082809	G-BH1-7.5-082809	G-BH1-16-082809
G-BH2-Surf-082809	G-BH2-7.5-082809	G-BH2-15-082809
G-BH3-Surf-082709	G-BH3-7.5-082709	G-BH3-15-082709
G-BH4-Surf-082709	G-BH4-7.5-082709	G-BH4-15-082709
G-BH5-Surf-082709	G-BH5-7.5-082709	G-BH5-15-082709

See the attached Checklist and associated data results pages provided by Golder Associates for qualified sample results.

ORGANIC ANALYTE - Tier III & IV Data Validation Summary Checklist

GOLDER PROJECT #: 073-93312.05				SITE: Avery Landing/ POTLATCH / Idaho			
LABORATORY: Test America				SDG: #SSH0166			
SAMPLES	3	MATRIX					
G-BH1-Surf & 7.	5 16	8-27	,28 -0	7	<u> </u>	L BOR	LAGY
B 42-75 Sur			ή				
BH3 - Such 7.5	.15	·	1				
BH4-5wf, 75	, 15		}			·	
BH5-5014,75			V		-	-	-
			<u> </u>				·
D.	ATA ASS	ESSMEN	Γ SUMMA	\RY		•	
DEVILLATITEM	TZOA	DNIA	Doct /	TPH-Dx	DATE	OTHER	OTHER
REVIEW ITEM	VOA	BNA	Pest / PCB	IPH-DX	PAH - SIM	OILLER	OTTER
	·		PCB		SIM		
1. Data Completeness							
2. Preservation, Holding Times							
3.GC/MS Tune, Inst. Performance		7			-0		
4. Calibrations			0		\bigcirc		
5. Surrogates		A3			- X.O	E.	
6. Internal Standards)		-			
7. Lab Blanks, Field Blanks		7		3			
8. Lab Duplicates, Field Duplicates				0			
9. LCS, Blank Spike, MS/MSD						~ <u></u>	
10.Compound Identification, TICs		1					
11. Result Verification, D.Limits							
12. Overall Summary			0	0			
O = Data had no problems	. 0	= Problems	, but do not	affect data		<u> </u>	
O = Data had no problems Θ = Problems, but do not affect data X = Data qualified due to minor problems [typically estimated data (J or UJ)].							
M = Data qualified due to major prol			nan 50% qua	lified (J/UJ).			
Z = Data unacceptable [typically data	a rejected (I	<u>Q.</u>	٠	leries X	> 1. A-	~~~ .^~	-11
Comments/Qualified Results:		surrog	· I COU	iekcies X	CVA	200.11 E	SK CLZ
for -15 quelit.	(2/WI	'					
			<u> </u>				
					-,		
	<u> </u>		 -		<u> </u>	,	
	•						
· · · · · · · · · · · · · · · · · · ·							
				<u> </u>			
							
	_		٨				
Validated by: / M		LEN]	1		Date:	W. 10	2009
Reviewed by:		VV			Date:		\- ~

ORGANIC ANALYTE - Tier III & IV Data Validation Summary Checklist Acceptable:

•		YE5	NO
1. Date Package Completeness (Check if pro-	esent)	V	□
	./	-	
	Blank Results		
Chain of Custody	Surrogate Results	/ Acceptable	
Sample Results Detection Limits	internal Standards MS/MSD, LCS Results	<u>x</u> Absent <u>o</u> Not required for	
	Preparation Logs	data package	
✓ Paitial Calibration	Analysis Run Logs	requested.	
Continuing Calib.	⊘ Raw Data		
	Other		
Comments/Qualified Results:			
Comments/Qualined Results			
	<u> </u>	·	
	1	•	
			
			
<u> </u>			
	•		
		. /	
2. Holding Times (Check all that apply)			
		0.0	
Unpreserved VOA analyzed in 7 days from collection; Preser	rved 14 days from collection		
BNA samples extracted within 7 days (14 day soil) of collection	on		
BNA extracts analyzed within 40 days of collection Pest/PCBs samples extracted within 7 days (14 day soil) of c	ellection		
Pest/PCBs samples extracted within 40 days of collection	ollection		
Qualify as estimated (J/UJ) all results analyzed past hold time li	mits, but within 2X of the limit. (Dutside the 2X limit, at	ualify
	1keted: 8/27-	· •	•
Comments/Qualified Results: Co	rected: 924-	-28	
TPH-Dx Analysis: 901	- / III D-	1	
JEG-DS FIVELYSIS. 70 B			
PAHO Drep 8/31	< 7 Day	<u> </u>	
DCB OPEN 9/19 <14	Day		
<u> </u>	·		
	<u></u>		
3: GC Instrument Tune, Performance Check			
. Oo maa aman tana, tana, tanaan			
_GC/MS Tuning performedRe	s Chk Mix, MidPoint AB <60%,	(J for detects, UR other	er)
_GC/MS Tuning within control limitsPE	M resolution <90% adj pks, (J f	or detects, UR other)	
	T, Endrin breakdown >20%, (J		
	n Aldehyde, Endrin Ketone, or I		
_Res Check Mix, MidPoint AB, TCMX, DCBP within RT window	vs from ICAL AB mixture (Fix of	(R/UR)	
Comments/Qualified Results: See	CQ 1713 > P.C.	1-107	
· · · · · · · · · · · · · · · · · · ·			
			
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ORGANIC ANALYTE - Tier III & IV Data Validation Summary Checklist

Acceptable: Yes NO	
4. Initial & Continuing Calibration (Check all that apply)	
GC/MS Data:ICal RRFs>0.05 all cmpnds (If no,J/UR), [>0.01 for Poor Performers] VOA, SVOAICal RSD of RRF <30% all cmpnds (If no,J detects) [<50% for Poor Performers] VOAICal RSD of RRF<20.5% all cmpnds (If no,J detects) [<50% or *30% for Poor Performers] SVOA Note: *Applies to 2.4-DNT, 2-Nttrophenol, and 2.4-DMP only [SVOA]Continue Cal, +/- 30% Diff of RRF (If no, J/UJ) [+/- 50% Diff, Poor Performers] VOA, SVOA	
Continue Cal. *1- 30% Diff of RRP (if no, 3/03) [47- 30% Diff, Pool Periorities] *VOA, 3VOA Continue Cal. *\partial \text{C20\psi} all cmpnds (if no, 3/UJ) , VOA, SVOA Pesticide/PCB:RSD<10\psi for performance checks (if no J detects) Stnds analyzed prior to analysis, & at proper frequency Continuing Cal. *\psi Diff. <15\psi for quant. (<20\psi for confirm column)	
TPH-Dx RRFV R2=.998	
PHH True 8/31 TCAL 8/31 FCP EKSD- 15, Venco full provious 21/2	- c
gone detents qualification No Qual. COAL - You Tune Percults	
CCN <258/	
CCM -136	
5. Surrogates (Check all that apply)	
Surrogates analyzed Recoveries within Method Control (lab) limits (VOA: 80 – 120%, SVOA: Lab Established, PEST: 30-150%) Recoveries above Method Control limits (J detects only) Recoveries below Method Control limits but>20% (J/UJ)	
Recoveries below 20%, 10% for PEST (J/UR for VOA, J/ UJ or UR for SVOA, J/UR for PEST) Comments/Qualified Results SUOA: 9/12 9/18	
PCB: 9/14 9/15 Low recou for 12 9/17 Low recov.	
for -11 and -14 - Ingle surrog- only NU GUALIF.	
PAH: Datou# 80204 Samples 406,18, 04 Salarg. Out	•
for N. Benz & ZFBP. ASSIC, VESULTS QUOLIF (Flux) 14 SAME for	
select analytes.	
Select bounty ress.	
6. Internal Standards Performance	
Internal standards added to all QC and samplesInternal standards areas within Control Limits* [+/-40% VOA, +/-50% SVOA]* *Associated with 12 Hour CCV Stnd.	
Internal standards out of Control limits but >10% (J/UJ)Internal standards zero or <10% of Control limits (J/UR)Internal standards RTs within +/-20 sec window (If no, J/UJ)	
Comments/Qualified Results:	

ORGANIC ANALYTE - Tier III & IV Data	і уалаа		-		
	,	Accep	table:	Yes	NO
7. Laboratory Blanks, Field Blanks (Check all the	nat app	ly)	•••••	<u>t</u>	
Method Blanks, Prep.Blanks analyzed after Cal Stnds and every 1Method Blink Common Lab Contaminants, list: MeCl2, Cyclohex (Other Contaminants: Qualify results (< 5X RL) according to CharlInstrument blanks after all high level samples, All cmpnds must be	<10X RLs) below.); Acetone, 2	-butanon	e (<2X RLs)	; Chart
Examples:	·	BLANK		SAMPLE	Q
Comments/Qualified Results:	MDL	Result	PQL	Result	Applied
TPH-Dx: MB006 (Mg/Kg) & MB170-	0.3	0.45	1.0	0.8	1.0 U
THE PROPERTY OF STREET OF	0.3	0.99	1.0	1.8	1.8 J
	0.3	1.5	1.0	1.1	1.5 U
DAD III	0.3	1.5	1.0 1.0	1.8 0.85	1.8 J 0.85 J
PCB MBINK 0048 : 46/Kg.	0.3	0	1.0	1.8	1.8
- Z J		<u>, </u>	1.0		,
PAH WORK 6204" mg/kg.					
8. Duplicate, Field Duplicates (Check all that appropriate RPD ≤20% for waters (≤35% for soils) for results >5X CF_Duplicate range is within ±CRDL (±2X CRDL for soils) for results Field duplicate RPD ≤20% (≤35% for soils) Comments/Qualified Results PH-D+#0006 #0170 PAH #0204	RDL			<i>Y</i>	
9. MS/MSD, Lab Control Samples, Blank Spike	s (Ched	ck all that	apply		
LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <idl %r="" (r="" (uj)="" <50%="" all="" and="" comments="" estimated="" lcs="" qualified="" rejected="" results="" results:<="" td="" ur)=""><td>25/5</td><td>De la</td><td>MS</td><td>/ ±00</td><td>06.</td></idl>	25/5	De la	MS	/ ±00	06.
#0170-LOS Dup, MS.	- (1 (
10B-LOS/1052/#0048 W	15/m	<u>SD (na</u>	n.ASS	ce)V	
PAH - 105 / MS/MSD on SO	mble	-01	4	0204)

ORGANIC ANALYTE - Tier III & IV Data Validation Summary Checklist

Acceptable:	Yes	NO
10.Compound Identification, TICs		
Comments/Qualified Results:	<u> </u>	
	 -	
44 Peoult Verification Detection Limits	19 /	П
11. Result Verification, Detection Limits	. 13	Ш
All results supported in raw dataDetection Limits appropriate to meet project needs (Review Work Plan, QAPP)		
Comments/Qualified Results:		
	<u>.</u>	
		
· · · · · · · · · · · · · · · · · · ·		
		
12. Overall Assessment	2	
Comments/Qualified Results:		
John Herris/Quained Nestrics.		
	 .	·
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	<u>. </u>	



SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 . ph: (509) 924-9200 fax: (509) 924-9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: **Avery Landing**

Project Manager:

073-93312-03

Doug Morell

Report Created:

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

			LOGITATIO	ciica ope	7144110					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH01 <u>66-01 (G-BH1-Surf-08</u>	2809)	Soi	il		Samp	oled: 08/	28/09 11:35			
1-Methylnapthalene	EPA 8270 mod.	ND		0,00480	mg/kg dry	lx	9080204	08/31/09 13:00	08/31/09 19:34	
2-Methylnaphthalone	u	ND		0,00480	•	•	*	*	•	
Acenaphthene	-	ND		0.00480	•		•	*	4	
Acenaphthylene	. "	. ND		0,00480	*		•	×	•	
Anthracene	ď	ND		0,00480		•	•	*	•	
Benzo (a) anthracene	*	ND	_	0,00480	*	•		•	*	
Benzo (a) pyrene	•	ND		0.00480	v		н	-	•	
Benzo (b) fluoranthene	*	ND		0,00480	*	*	U	•	•	
Benzo (ghi) perylene	N	ND		0,00480		*		•	•	
Benzo (k) fluoranthene	Įi .	ND		0.00480	*	7	n	*		
Chrysene	b	ND	_	0,00480	٠	я	•	•	¥	
Dibenzo (a,h) anthracene	•	ND	_	0.00480	*	*	n	•	•	•
Fluoranthene	ń.	ND	-	0,00480	• .	7	b	•	•	
Fluorene	•	ND	_	0,00480		•	n	H	•	
indeno (1,2,3-cd) pyrene	•	ND	_	0,00480	ж.	*	•		*	
Naphthalene	•	ND		0.00480		H	łŋ	•	•	
Phenanthrene		ND		0.00480	*	•			•	
Pyrene		ND	•—	0,00480	"	*	*	н	•	•
Surrogate(s): Nitrobenzene-d5			69.8%		38.8 -	139 %	,,		ur .	
2-FBP			66.6%			132 %	н		**	
p-Terphenyl-d14			99.6%		31.7-	- <i>179 %</i>	*		"	
SSH0166-02 (G-BH1-7.5-0828	(09)	Soil	1		Samp	led: 08/2	28/09 12:10			
I-Methylnapthalene	EPA 8270 mod.	ND		0,00452	mg/kg dry	lx	9080204	08/31/09 13:00	09/01/09 08:11	
2-MethyInaphthalene	•	ND		0.00452	*	*	4.	**	•	
Acenaphthene	0 ,	ND		0.00452	"	•	#	. *	•	
Acenaphthylene	* -	ND		0,00452	#	•	•	*	* .	
Anthracene		ND		0,00452	η. '	×	H	**	•	
Benzo (a) anthracene		ND		0.00452		•	•	#	•	
Benzo (a) pyrene	•	ND	_	0.00452	#		•	•	•	•
Benzo (b) fluoranthene		ND	····-	0.00452						
Benzo (ghi) perylene		ND	•	0,00452		•	•	•	*	
Benzo (k) fluoranthene	h	ND	_	0,00452	,			•	•	
Lisysene	*	, ND	•	0,00452	Ħ	•			•	
Dibenzo (a,h) anthracene	•	ND		0.00452		H	и		•	
luoranthene	۳.	ND		0.00452	*		¥	¥	•	
luorene		ND		-0.00452-		<u> </u>	<u>n</u>	•	·	
ndeno (1,2,3-cd) pyrene	•	ND		0.00452	*	•	Ħ		•	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document, This analytical report must be reproduced in its entirety.

Randce Decker, Project Manager

Amended Report





SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax; (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Avery Landing Project Name:

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	····	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-02	(G-BH1-7.5-082809)		Sc	oil		Samp	oled: 08/	28/09 12:10			
Naphthalene		EPA 8270 med.	ND		0,00452	mg/kg dry	1 x	9080204	08/31/09 13:00	09/01/09 08:11	
Phenanthrene		n '	ND	-	0.00452	h	•		н		
Pyrene		н	ND	_	0.00452	w	•		•		
Surrogate(s):	Nitrobenzene-d5		·	74.6%		38.8 -	- 139 %	11		"	
	2-FBP			63.6%			- 132 %	W		"	
	p-Terphenyl-d14			120%		. 31.7-	- 179 %			. "	
SSH0166-03	(G-BH1-16-082809)		So	dil .		Samp	led: 08/	28/09 12:30			
1-Methylnapthale	ne	EPA 8270 mod.	0.0279		0,00487	mg/kg dry	1x	9080204	08/31/09 13:00	09/01/09 08:32	
2-Methylnaphthal	lene	н	0.00779	_	0,00487	v	•		Ħ	•	
Acenaphthene			0.90584	·	0.00487		•	. *	Ħ	•	
Acenaphthylene		*	ND		0.00487	*	•		•	н	
Anthracene		•	ND	-	0,00487	F	Ħ	•	#	и	
Benzo (a) anthrace	ne	* ,	ND	_	0.00487	p	*		Ħ	u	
Всахо (а) ругене			ND	-	0.00487		*		и .	н	
Benzo (b) fluoranti	heno		ND	-	0.00487	м	*	۳.	н .	v	
Benzo (ghi) peryle	ne	•	ND	-	0.00487		•		Ħ	. 4	
Benzo (k) fluoranti	hene	•	ND	-	0,00487	P	н	•	n	*	
Chrysene		и	ND		0,00487	a	н	٠	H	*	
Dibenzo (a,h) anth	racene		ND		0.00487		h	*		Ħ	
Fluoranthene		n	ND		0.00487	•	н	•	. *	H	
Fluorene	•	•	ND	_	0,00487	*	•		*	н	
Indeno (1,2,3-cd) p	утепе	•	ND	-	0.00487	•	*	**	•	н	
Naphthalene		. #	0.00908	·	0.00487	•	•	u ,	h	•	
Phenanthrene		н	ND	-	0.00487		*			•	
Pyrene		11	ND		0.00487	m		n		<u>.</u>	
Surrogate(s):	Nitrobenzene-d5			52.0%		38.8 -	139 %	. "		a	
	2-FBP			49.8%			132 %	n		įr.	
	p-Terphenyl-d14			65.4%		3].7-	179%	H		и .	

TestAmerica Spokane

Amended Report

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SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Project Number:

riojeci Number.

Avery Landing 073-93312-03

Project Manager:

Doug Morell

Report Created:

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-04 (G-BH2-7.5	(-082809)	Soi			Samp	led: 08/2	28/09 09:50			···
1-Methylnapthalene	EPA 8270 mod.	0.00973		0,00461	mg/kg dry	lx	90802.04	08/31/09 13:00	09/01/09 09:15	
2-Methylnaphthalene		0.0159		0,00461		ч	*	• .	•	
Acenaphthene	•	ND	_	0,00461	•	и	×	Ħ	•	•
Acenaphthylene		ND	_	0.00461	•		•	78	•	
Anthracene	H	ND		0,00461		п	×	*	•	
Benzo (a) anthracene	*	0.00461		0.00461	h	n		×	• ,	
Benzo (a) pyrene	•	0.00512		0.00461	Ħ	н	. •		•	
Benzo (b) fluoranthene	•	0.0138	·	0.00461	•	•		×	*	
Benzo (ghi) perylene	н	0,00563	-	0,00461		•	=	*.	•	
Benzo (k) fluoranthene	*	ND	_	0,00461	*	*	4	. •	. «	
Chrysene	· n	0.0102		0,00461			•	•	17	
Dibenzo (a,h) anthracene		ND	_	0,00461		•	. •	*	*	
Auoranth e ne	U	0.00922		0,00461	•	*	4	. #	7	
Pluorene	и	ND		0.00461	*	•	*	. •	. 0	•
ndeno (1,2,3-cd) pyrene	•	ND		0.00461	•	•		•	þ	
laphthalene		0.00768		0,00461	h .		•	•		
henanthrene	•	0,00973		0,00461		•	•		. *	
yrene	h	0.0164		0.00461	•	•	•	. "	•	
Surragate(s): Nitrobenzen	ne-d5	•	i9.8%		38.8 -	139 %	" .			
2-FBP			55. 2%		40 -	132 %			"	
p-Terpheny	I-d] 4		35.0%		31.7 -	179 %	•		**	
SH0166-05 (G-BH2-Sur	rf-082809)	Soil			Samp	led: 08/2	8/09 09:15			
-Methylmapthalene	EPA 8270 mpd	ND.		0.00476	mg/kg dry	1x	9080204	08/31/09 13:00	09/15/09 18:31	
-Methylnaphthalene	•	ND		0.00476	h .	0	• ,	n	•	
cenaphthene	n	ND		0.00476	ь	н		* .	•	
			_	0.00476		Ð				
Acenanhthylene	•	ND								
· •	•	ND ND		0.00476	•	n	н		•	
Acenaphthylene Anthracene	•	ND	<u>-</u>	0.00476	•	n	ti Ti	# #	a K	
nthracene Senzo (a) anthracene	•	ND 0.00585	<u>-</u>	0.00476 0.00476	n n	1) 17	# #	#I # - * #I	ч Н И	
unhracene enzo (a) anthracene enzo (a) pyrene	•	ND 0.00585 0.00732	<u>-</u> -	0.00476 0.00476 0.00476	n n	1) 17 18	71 72 78	er er ai	4 4 8	
ndiracene lenzo (a) anthracene lenzo (a) pyrene enzo (b) iluoranthene		ND 0.00585 0.00732 0.0102	<u>-</u>	0.00476 0.00476 0.00476 0.00476	h h 11	11 π π	# # # # # # # # # # # # # # # # # # #	. ii	# # # # # # # # # # # # # # # # # # #	
Anthracene Jenzo (a) anthracene Jenzo (a) pyrene Jenzo (b) Auoranthene Jenzo (ghi) perylene		ND 0.00585 0.00732 0.0102		0.00476 0.00476 0.00476	# n n n n n n n n n n n n n n n n n n n	1) 17 11 11	t	# # # # # # # # # # # # # # # # # # #	** ** ** ** ** ** ** ** ** ** ** ** **	<u> </u>
Anthracene lenzo (a) anthracene lenzo (a) pyrene lenzo (b) fluoranthene lenzo (ghi) perylene lenzo (k) fluoranthene	•	ND 0.00585 0.00732 0.0102 0.0107 ND	<u>-</u>	0.00476 0.00476 0.00476 0.00476 0.00476 0.00476		13 17 18 18	† † † † † † † † † † † † † † † † † † †			
Anthracene lenzo (a) anthracene lenzo (a) pyrene lenzo (b) fluoranthene lenzo (ghi) perylene lenzo (k) fluoranthene lenzo (k) fluoranthene	•	ND 0.00585 0.00732 0.0102 0.0107 ND 0.00634		0.00476 0.00476 0.00476 0.00476 0.00476 0.00476		11 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	11 70 70 70 70 70 70 70	# # # # # # # # # # # # # # # # # # #		
Anthracene Benzo (a) anthracene Benzo (a) pyrene Benzo (b) fluoranthene Benzo (ghi) perylene Benzo (k) fluoranthene Chrysene bibenzo (a,h) anthracene	•	ND 0.00585 0.00732 0.0102 0.0107 ND 0.00634 0.00927		0.00476 0.00476 0.00476 0.00476 0.00476 0.00476 0.00476		11 17 18 18 19 19	* * * * * * * * * * * * * * * * * * *	# # # # # # # # # # # # # # # # # # #		· · · · · · · · · · · · · · · · · · ·
Anthracene Renzo (a) anthracene Renzo (a) pyrene Renzo (b) fluoranthene Renzo (ghi) perylene Renzo (k) fluoranthene Chrysene Vibenzo (a,h) anthracene Iuoranthene	•	ND 0.00585 0.00732 0.0102 0.0107 ND 0.06634 0.00927 ND		0.00476 0.00476 0.00476 0.00476 0.00476 0.00476 0.00476 0.00476	U 11	1) 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	*		4	
Anthracene lenzo (a) anthracene lenzo (a) pyrene lenzo (b) fluoranthene lenzo (ghi) perylene lenzo (k) fluoranthene librysene librysene libenzo (a,b) anthracene		ND 0.00585 0.00732 0.0102 0.0107 ND 0.00634 0.00927	-	0.00476 0.00476 0.00476 0.00476 0.00476 0.00476 0.00476	ti 11 19 17	1) 7 7 11 11 11 11 11 11 11 11 11 11 11 11		# # # # # # # # # # # # # # # # # # #	* * * * * * * * * * * * * * * * * * *	

TestAmerica Spokane

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





SPOKANE, WA

11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924,9200 fax: (509) 924,9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

			10001111	erica apo	Ranc					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-05 (G-BH2-Surf-082809) .	Soi	!		Samp	led: 08/.	28/09 09:15			
Phenanthrene	EPA 8270 mod	ND		0,00476	mg/kg dry	lx	9080204	08/31/09 13:00	09/15/09 18;31	•
Pyrene	H	0.00781		0.00476		R		*		
Surrogate(s): Nitrobenzene-d5			67.4%		38.8 -	139 %	н		и	
2-FBP			63.8%		40 -	132 %	Ħ		n	
p-Terphenyl-dl4			107%		31.7-	179 %	pr .		**	
SSH0166-06 (G-BH2-15-082809)		Sei	I		Samp	led: 08/	28/09 10:10			RI
1-Methylnapthalene	EPA 8270 mod	0,811		0,0109	mg/kg dry	2x	9080204	08/31/09 13:00	09/01/09 13:33	
2-Methylnaphthalene	н	0,570	_	0.0109		•	•		*	
Acenaphthene	•	0.368	_	0,0109	₩.	•	#	H	. ,	
Accnaphthylene		ND		0,0109		•	•	*	v .	
Anthracens	*	ND		0.0109	- 11		Ħ	a	h	
Benzo (a) anfiracene		0.0426		0.0109			0 4	•	•	
Benzo (a) pyrene	*	0.0146	·	0,0109		•	. #		•	
Benzo (b) fluoranthene	•	ND	_	0,0109	٠	•	11	Ħ		
Benzo (ghi) perylene	•	0,0243	_	0.0109	н	•	•	*	n	
Benzo (k) fluorenthene	•	ND		0.0109	*		7	•		
Chrysene	k:	0.0839		0.0109	,	*	n	Ħ		
Dibenzo (a,h) anthracene	• '	ND	_	0.0109	tr		*		*	
Fluoranthene	H	0.0511		0.0109	n	Ħ		. н		
Fluorene		0.512	_	0.0109	н	n	w		-	
indeno (1,2,3-cd) pyrene	▼ *	0,0109	_	0,0109	n	ч				
Vaphthalene	e .	0.260		0.0109	. и	, n	*	h .	н	
Phenanthrene	•	0.786		0.0109	n		*	н		
yrene	• .	0.440	-	0.0109	п	# '	H	n		
Surrogate(s): Nitrobenzene-d5			134%		38.8 -	139 %	,		"	
2-FBP			72,0%			132 %	**		. "	
p-Terphenyl-d14			211%		31.7 -	179 %	n		" Z	C
SH0166-07 (G-BH3-Surf-082709)	<u> </u>	Soil	·		Samp	led: 08/2	7/09 16:10			RI
-Methylnapthalene	EPA 8270 mod	ND		0.00848	mg/kg dry	2x	9080204	08/31/09 13:00	09/02/09 18:18	
-Methylnaphthalene	R	ND		0,00848	•		*	n	¥	
censphthene	H	ND		0,00848	•	•	11	77	n .	
Acenaphthylene	et	ND		0,00848			41	u	н	
Anthracene	H	ND	-	0,00848	•		۳.	11	,	
Benzo (a) anthracene		ND		0,00848		•	11	•		
Benzo (a) pyrene	×	ND		0,00848					H	

TestAmerica Spokane

Benzo (b) fluoranthene

Amended Report

0.00848

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Randee Decker, Project Manager



ND



SPOKANE, WA

11922 E. 15T AVENUE SPDKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

Project Manager:

Avery Landing

073-93312-03 Project Number:

Doug Morell

Report Created:

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-07 (G-BH3-Surf-08270	9)	Soi	il		Samp	led: 08/	27/09 16:10			RL
Benzo (ghi) perylene	EPA 8270 mod.	0.0160	-	0,00848	mg/kg dry	2x	9080204	08/31/09 13:00	09/02/09 18:18	
Benzo (k) fluoranthene	•	ND	_	0,00848	49		*	u	ч	
Chrysene	•	ND		0,00848	•	•	•	•	•	
Dibenzo (a,h) anthracene	W	ND	-	0,00848	*	4	U	•	•	
Fluoranthene		ND		0,00848	u		р	H	•	
Fluorene	R	ND		0.00848	e	н	•	. "	. *	
Indeno (1,2,3-cd) pyrene	Tr.	ND	-	0.00848	•	ч	N	u	- н	
Nephthalene	u	ND	_	0,00848	•	46	*	D	11	
Phenanthrene	a	ND		0.00848			II	år:	ж	
Pyrene		ND	-	0,00848		"H	ħ	h	*	
Surrogate(s): Nitrobenzene-d5			53.6%		38.8 -	139 %			ar	·
2-FBP		`	53.6%		40 -	132 %	H		27	
p-Terphenyl-d14	*		81.6%		33.7 -	179 %	W		F	
SSH0166-08 (G-BH3-7.5-082709)		Soi	l		Sampi	led: 08/2	27/09 16:45			
1-Methylnapthalene	EPA 8270 mod	0.00547		0,00485	mg/kg dry	lx	9080204	08/31/09 13:00	09/01/09 09:58	
2-Methylnaphtbalene	*	0.00795	· —	0,00485	•	•	μ	н	н .	
Acenaphthene	и .	ND		0,00485		*	4	75	•	
Acenaphthylene	T	ND		0.00485	*			H .	•	
Anthracene	•	ND	-	0,00485	•	#l	•	u	"	
Benzo (a) anthracene	K I	ND	-	0,00485	•	•		u		
Benzo (a) pyrene	R	0.00497		0.00485	ŗ	•	•	•		
Benzo (b) fluoranthene	, "	0.00646		0.00485	v	H	Ħ	* .	. *	
Benzo (ghi) perylene	•	0.00597	_	0,00485	10		u	•	H	
Beazo (k) fluoranthene	*	ND		0,00485	π .	•	, н	ч		
Chrysene	*	0.00895		0.00485		•	41	Ħ	,	
Dibenzo (a,h) anthracene	n	ND		0.00485	. н	n	*	*	*	
Fluoranthene	н	0.00994		0.00485		•	н	W	*	
Fluorene	н	ND		0,00485	7	″ *	и		•	
Indeno (1,2,3-cd) pyrene	•	ND		0.00485	•	h	*	M	• •	
Naphthalene		ND	· —	0.00485	N		*	,	H	
Phenanthrene	•	0.0104	_	0,00485		**	•	. #	•*	
Pyrene	in .	0.00994		0,00485	ग	•			н	-
Surrogate(s): Nitrobenzene-d5			52.6%		38.8	139 %	ıt		"	
2-FBP			52.2%		40	132 %			Ħ	
p-Terphenyl-d]4		•	86.4%		31.7	179%	ρ		, n	

TostAmerica Spokane

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of oustody document. This analytical report must be reproduced in its entirety.





Amended Report

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	~	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-09	(G-BH3-15-082709)		Soi	1		Samp	led: 08/2	27/09 17:15			RL
1-Methylnapthali	ėnė	EPA 8270 mod.	0.149		0.00519	mg/kg dry	lx	9080204	08/31/09 13:00	09/15/09 17:05	
2-Methylnaphtha	dene	b	0.0358		0.00519		4	tr	85		
Acenaplithene		**	0.0381		0,00519		*	H		•	A-0
Acenaphthylene		•	ND	_	0,00519	Ħ		п	•	**	A-01
Anthracene		п	0.108		0.00519	*	н	н	н	*	
Benzo (a) anthrac	cene	n	0.0306		0.00519	•	11	В	H		į.
Benzo (a) pyrene		,	0.0139	-	0.00519		10	•	Ħ	μ	
Benzo (b) fluorant	thene		ND ·		0.00519		*		•		
Benzo (ghi) peryk	ene		0.00981		0.00519	¥	•	u	•		
Benzo (k) flaoran	fiene		0.0208	-	0,00519	*	h	h	H	tr	
Chrysene	•	10	0.0491		0.00519				•	•	
Dibenzo (a,h) anti	hracene	Ħ	0.00808		0,00519	•	•		*	я.	
Finoranthene	•		0.0294		0,00519	. •		*	•	*	
Fluorene		Þ	0.0531	-	0,00519	r	я	*	H	*	A-0
Indeno (1,2,3-cd)	ругеве	•	0.00750		0,00519			*	P	•	
Naphthalene		n	ND	. - '	0.00519	•		ti	H	•	
Phenanthrene	•	H	0.231	<u> </u>	0.00519	*	н		₩	*	
Pyrene		•	0.107		0.00519	•		9	#	4	
Surrogate(s):	Nitrobenzene-d5			83.6%		38.8 -	139 %	n .		п	
•	2-FBP			36.0%		40 -	132 %	ar .		N	A-01. Z
	p-Terphenyl-d14			64.2%		31.7 -	179%	•		Ħ	
SSH0166-10	(G-BH4-Surf-082709))	Soil	I		Samp	led: 08/2	7/09 09:50			
I-Methylnapthalen	10	EPA 8270 mod	ND		0.00429	mg/kg dry	ìχ	9080204	08/31/09 13:00	09/15/09 07:03	
2-Methylnaphthale	me	u	ND		0.00429			H			
Acenaphthene		R	ND		0.00429				н		
			,,,,,								
•		*	NÍD		0.00429	•		•			
Acenaphthylene		N 11	ND		0.00429	= 4		*	*		A-NI s
Acenaphthylene Anthracene		* *** - **	ND		0,00429	14 17		# *	**	H .	A-Dia
Acenaphthylene Anthracene Benzo (a) anthrac	CEIRE		ND 0,0114		0,00429	क स ए	. * *	n K H	**	# . #	A-Dia
Acenaphthylene Anthracene Benzo (a) anthrac Benzo (a) pyrene			ND 0,0114 0,0129		0,00429 0,00429 0,00429	= च च स	, , , , , , , , , , , , , , , , , , ,	# 11 11 11 11 11 11 11 11 11 11 11 11 11	च च स	20	A-Ola
Acenaphthylene Anthracene Benzo (a) anthrac Benzo (a) pyrene Benzo (b) fluorant	thene	н н ц	ND 0.0114 0.0129 0.0324		0,00429 0,00429 0,00429 0,00429	# # H	, # # #	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ю ч п	* * *	A-Ola
Acenaphthylene Anthracene Benzo (a) anthrac Benzo (b) fluorant Benzo (ghi) peryle	thene ne	# # # # # # # # # # # # # # # # # # #	ND 0.0114 0.0129 0.0324 0.00905		0.00429 0.00429 0.00429 0.00429	* * * * * * * * * * * * * * * * * * *	и и и и	# 11 11 11 11 11 11 11 11 11 11 11 11 11	₩ च स ₩ ••••••••••••••••••••••••••••••••		A-Ola
Acenaphthylene Anthracene Benzo (a) anthrac Benzo (a) pyrene Benzo (b) fluorant Benzo (ghi) peryle Benzo (k) fluoranti	thene ne	н п п	ND 0.0114 0.0129 0.0324 0.00905 ND	- - - - - -	0.00429 0.00429 0.00429 0.00429 0.00429	* * * * * * * * * * * * * * * * * * *	, и и и и	# 11 11 11 11 11 11 11 11 11 11 11 11 11	40 41 41 61	*	A-Ola
Acenaphthylene Anthracene Benzo (a) anthrace Benzo (a) pyrene Benzo (b) fluoranti Benzo (ghi) peryle Benzo (k) fluoranti Chrysene	fliene ne hene	# # # # # # # # # # # # # # # # # # #	ND 0.0114 0.0129 0.0324 0.00905 ND 0.0100	 	0.00429 0.00429 0.00429 0.00429 0.00429 0.00429	11 TO	, , , , , , , , , , , , , , , , , , ,	1 1 11 0	10 10 10 10 10 10 10	*	A-01a
Acenaphthylene Anthracene Benzo (a) anthrace Benzo (a) pyrene Benzo (b) fluorant Benzo (ghi) peryle Benzo (k) fluorant Chrysene Dibenzo (a,b) anth	fliene ne hene	# # # # # # # # # # # # # # # # # # #	ND 0.0114 0.0129 0.0324 0.00905 ND 0.0100		0.00429 0.00429 0.00429 0.00429 0.00429 0.00429 0.00429	10 10 10 10 10 10 10 10 10 10 10 10 10 1	, , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , ,	10 10 10 10 10 10 10	*	
Acenaphthylene Anthracene Benzo (a) anthrace Benzo (b) fluorant Benzo (ghi) peryle Benzo (k) fluorant Chrysene Dibenzo (a,b) anth	fliene ne hene	# 10 10 10 10 10 10 10 10 10 10 10 10 10	ND 0.0114 0.0129 0.0324 0.00905 ND 0.0100 0.00476 0.00762		0.00429 0.00429 0.00429 0.00429 0.00429 0.00429 0.00429 0.00429	10 10 10 10 10 10 10 10 10 10 10 10 10 1	# # # # # # # # # # # # # # # # # # #	* * * * * * * * * * * * * * * * * * *	W W W W W W W W W W W W W W W W W W W	* * * * * * * * * * * * * * * * * * * *	A-01a
Acenaphthylene Anthracene Benzo (a) anthrace Benzo (a) pyrene Benzo (b) fluorant Benzo (ghi) peryle Benzo (k) fluorant Chrysene Dibenzo (a,b) anth	thene ne nene nracene	# # # # # # # # # # # # # # # # # # #	ND 0.0114 0.0129 0.0324 0.00905 ND 0.0100		0.00429 0.00429 0.00429 0.00429 0.00429 0.00429 0.00429	#** #	* * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * *	e e e e e	*	

TestAmerica Spokane

The results in this report apply to the samples onotyzed in occordance with the chain of custody document. This analytical report must be reproduced in its entirely.

(ardinles)

Amended Report





SPOKANE, WA

11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Project Number:

Avery Landing 073-93312-03

Project Manager:

Doug Morell

Report Created:

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

MDI

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note	Ħ
SSH0166-10 (G-BH4-Surf-08270	9)	So	il		Samı	pled: 08/	27/09 09:50				
Phenanthrene	EPA 8270 mod.	ďи		0.00429	mg/kg dry	ìχ	9080204	08/31/09 13:00	09/15/09 07:03	A-01a	
Pyrene	•	0.0224		0.00429		H			h		
Surrogate(s): Nitrobenzene-d5			60.0%		38.8	- 139 %	η		"		
2-FBP			67.2%		40	- 132 %	'n		H		
p-Terphenyl-d14	•		110%		31.7	- 179 %	H		H		
SSH0166-11 (G-BH4-7.5-082709))	Soi	il '		Samp	pled: 08/	27/09 10:20				RL3
1-Methylnapthalene	EPA 8270 mod	1.74		0.00865	mg/kg dry	2x	9080204	08/31/09 13:00	09/15/09 17:48		
2-Methylnaphthalene	•	1.60		0,00865	#			•	•		
Acenaphthene		0.168		0.00865	*				•		1
Acenaphthylene	•	ND		0.00865		•	*	H	H	I	
Anthracene		0.615		0,00865	н		*	H	b		1
Benzo (a) authracene	•	0.0778		0.00865	4	•	4				
Benzo (a) pyrene	•	0.0413		0.00865		7	ir	п	•		
Benzo (b) fluoranthene	n •	0.0471		0,00865	b		н	*	•		
Benzo (ghi) perylene	•	0.0211		0.00865	*		11		*		
Benzo (k) fluoranthene	•	ND		0.00865	•	Ħ	H	*			
Chrysene	•	0.196		0,00865	•	41	7	b			
Dibenzo (a,h) anthracene		ND		0.00865	*	**	•	. *	н		
Flooranthene	N T	0.153		0,00865	• .	•	. •	*	н		1
Fluorene	•	0.280	_	0.00865		*	•	*	. , "		1
Indeno (1,2,3-cd) pyrene	*	0.00865		0,00865		0		•	н		
Naphthalene	W	ND		0.00865	•			•			
Phonanthrone		1,64	-	0.00865		•			н "		1
Pyrene	e	0.146		0.00865	•	•		rt			
Surrogate(s): Nitrobenzene-d5			236%		38.8	139 %	H		н	ZX	_
2-FBP			21.2%		40 -	132 %	R.		n	I	
p-Terphenyl-d14			98.4%		31.7-	- 179 %	Ħ		n	ZX .	
SSH0166-12 (G-BH4-15-082709)		. Soil	1		Samp	led; 08/2	27/09 10:15				
1-Methylnapthalone	EPA 8270 mod	ND		0,00459	mg/kg dry	ìχ	9080204	08/31/09 13:00	09/01/09 09:36		-
2-Methylnaphthalene	н	ND		0,00459		h	· · · · · · · · · · · · · · · · · ·	۹	м		
Acenaphihene	п	ND		0.00459	•		ri .	*	•		
Acenaphthylene	#	ND		0,00459	•	h	7		* '		
Anthracene	•	ND		0.00459	*	н	10		H		
43DADOONO		AD		_,,							

TestAmerica Spokane

Benzo (a) anthracene

Benzo (b) fluoranthene

Benzo (a) pyrene

Amended Report

0.00459

0.00459

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirely.

Randee Decker, Project Manager



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SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 (ax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Manager: **Avery Landing**

Project Number:

073-93312-03 Doug Morell

Report Created:

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-12 (G-BH4-15-082	2709)	So	i1		Samp	pled: 08/	27/09 10:15			
Benzo (ghi) perylene	EPA 8270 mod	ИD		0,00459	mg/kg dry	lх	9080204	08/31/09 13:00	09/01/09 09:36	
Benzo (k) fluoranthene	•	ND		0.00459	n		Ð	н	10	
Chrysene	•	ND		0.00459	*		*	n	**	
Dibenzo (a,h) anthracene	•	ND	_	0.00459	•		*	•	×	
Fluoranthene	•	ND		0.00459	*	*	*	w	· *	
Fluorene	٠.	ND		0.00459	*		Ħ	9	*	
Indeno (1,2,3-cd) pyrene	÷ ·	ND	_	0,00459	4		•	¥	• `#	
Naphthalene	* .	ND		0.00459	Ħ		•	, •	*	•
Phenanthrene		0.00501		0.00459	*	*		**	•	
Рутеве	*	ND	MP77	0,00459	¥	•	•	*	•	
Surrogate(s): Nitrobenzene-d.			58.8%		38.8	- 139 %	#		0	
2-FBP	•		57.0%			- 132 %	"		. " " "	
p-Terphenyl-d1	4		70.4%		31.7	- 179 %	11	•	*	
SSH0166-13 (G-BH5-Surf-0	82709)	Sai	1		Samp	pled: 08/2	7/09 12:40			RL
1-Methylnapthalene	EPA 8270 mod.	ND		0.00999	mg/kg dry	2 _K	9080204	08/31/09 13:00	09/01/09 12:50	
2-Methylnaphthalene		ND		0,00999		•	•	*		
Acenephthene	•	ND		0.00999				н	'₩	
Acenaphthylene		ND	,	0,00999				ĸ		
Anthracene		ND		0.00999		H	и	н .		
Benzo (a) anthracene	ħ	ND		0,00999	π			·	•	
Benzo (a) pyrene		0.0133		0.00999	. "	. •	•	*	•	
Benzo (b) fluoranthene	•	0.0257	_	0.00999	0	*			4	
Benzo (ghi) perylene	*	0.0200		0.00999	**	-		»	•	
Benzo (k) fluoranthene	₹1	ND		0,00999	*	•	•	•		i
Chrysene	n	0.0114		0.00999	#		н		41	
Dibenzo (a,h) anthracene	n	ND	-	0.00999	H	н	Ħ	н	11	
Fluoranthene		ND	-	0.00999	*	4		14	11	
Fluorene	e	ND		0.00999	•		7	•	•	
Indeno (1,2,3-cd) pyrene	. N	0.0124		0.00999		•	Ħ	Ħ	п	
Naphthalene	• · · · · · · · · · · · · · · · · · · ·			D.00999	*	"			, н	
Phenanthrene	. •	ND		0,00999		91		'n	r	
Pyrene	н	0.0238	_	0.00999	*	•		*	М	
Surrogate(s): Nitrobenzene-d5	·		65.6%		38.8	- 139 %			n	•
2-FBP			61,2%		40 -	- 132 %	n			
p-Terphenyl-d14	1		178%		31.7-	- 179 %	IF .		p p	

TestAmerica Spokane

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

<u>(abrati</u> Randee Decker, Project Manager





SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax; (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Project Number.

Avery Landing 073-93312-03

Project Manager:

Doug Morell

Report Created:

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-14 (G-BH5-7.5-08270	9)	Soil			Sam	pled: 08/2	27/09 13:20			
1-Methylnapthalene	EPA 8270 mod.	4,04		0.0529	mg/kg dry	10x	9080204	08/31/09 13:00	09/01/09 16:54	-
2-Methylnaphthalene	μ	5.21		0.0529			tt-			
Acenaphthene		0.347 🌫	- —	0.0106	'n	2x	н	•	09/01/09 14:37	10
Acenaphthylene	a	ND U		0.0106	•	ħ	*			102
Anthracene		0,315		0,0106	41		4		ħ	10
Benzo (a) anthracene	*	0.0413	—	0.0106	۳	н,	а	P	n	
Benzo (2) pyrene	T .	0.0171	_	0.0106		-	ų		ŧ1	
Benzo (b) fluoranthene	•	ND		0.0106		-	a	п	#	
Benzo (ghi) perylene	u .	0.0151		0,0106	•	н ,		*		
Benzo (k) fluoranthene	•	ND		0.0106		•	•	н	*	
Chrysene	•	0.0816		0.0106		F	4		e	
Dibenzo (a,h) anthracene	•	ND		0,0106	8		•	M.	**	
Fluoranthene	• ,	0.0826		0.0106	. *		4	#	11	10
Fluorenc	•	0.545		0.0106		-	н		•	10
Indeno (1,2,3-cd) pyrene	*	ND		0.0106	•	•	4		u	
Naphthalene		0.504		0.0106	*		11		*	
Phenanthrene		0.802	·	0.0106		n			R	10
Pyrene		0.494		0.0106		.	*	Ē		
Surrogate(s): Nitrobenzene-d5		1	07%		38.8	- 139 %	U		π	
2-FBP		4	4.8%		40 -	- 132 %	0		" I	02
p-Terphenyl-d14		2	23%		31.7	- 179 %	n	•	" 2	x

SSH0166-15 (G-BH5-15-082	709)	Soil	Samp	oled: 08/27/09 13:45			
1-Methylnapthalene	EPA 8270 mod	0.0769 🛣 —	0,00487 mg/kg dry	1x 9080204	0B/31/09 13:00	09/01/09 13:12	
2-Methylnaphthalene		0.0628 (0.00487 "	н е		r	
Acenaphthene		0.0271 ¥	0,00487	н е	ж .	•	
Acenaphthylene		ND UJ	0.00487 "	и и	11	•	
Anthracene	•	0.0173	0.00487	H · · · · · · · · · · · · · · · · · · ·	м	· N	
Benzo (a) anthracene	•	0.00595 丁	0.00487 *	94 N	u		
Benzo (a) pyrene	. •	ND UJ -	0,00487 "		Ħ	•	
Benzo (b) fluoranthene	•	ND UJ -	0.00487 *	# u	•		
Benzo (ghi) perylene		0,00487 J	0.00487				
Benzo (k) fluoranthene		ND UT -	0,00487 "	н н	v	. •	
Chrysene	•	0.8146 T	0.00487 "	*	"	M	
Dibenzo (a.h) anthracene	, u	ND UJ	0.00487 "	P II	1)	•	
Fluoranthene	R	0.0146 🏗	0,00487	- "	m m	•	
Fluorene	я	0.0401 J	0.00487 "	m n	н	*	
Indeno (1,2,3-cd) pyrene	#	ND_ LUT	0,00487 *	N n	n .	<u> </u>	
Naphthalone	ų	. 0.0541 J -	0,00487 "	н и	II	ņ	

.TestAmerica Spokane

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Amended Report





SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Project Number,

Avery Landing 073-93312-03

Project Manager:

Doug Morell

Report Created;

10/01/09 11:30

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result MDL*	MRL Up	iits Dil	Batch	Prepared	Analyzed	Notes
SSH0166-15	(G-BH5-15-082709)		Soil		Sampled: 08	27/09 13:4 5			
Phenanthrene		EPA 8270 mod.	0.0487 <u>T</u> —	0.00487 mg/k	g dry 1x	9080204	08/31/09 13:00	09/01/09 13:12	
Pyrene		•	— آئہ 0.0514	0,00487	4 *			# ·	
Surrogate(s):	Nitrobenzene-d5		19.8%		38,8 - 139 %	,,		"	Z
	2-FBP		25.6%		40 - 132 %	n		. "	z
	p-Terphenyl-d14		75.2%		31.7 - 179 %	tr .			

TAS 11-10-09

TestAmerica Spokane

Randee Decker, Project Manager

Amended Report

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SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99286-5302 ph: (509) 924.9200 fex: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Avery Landing

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created:

10/01/09 11:30

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-01	(G-BH1-Surf-082809)		So	i		Samp	pled: 08/	28/09 11:35			
PCB-1016		EPA 8082	ИD		9.87	ug/kg dry	ĺχ	9090048	09/09/09 09;20	09/11/09 21:58	
PCB-1221		•	ND		9.87		v	u	. •	09/11/09 21:36	
PCB-1232		•	ND	_	9,87		11	•	•	**	
PCB-1242		•	ND		9,87	, •	н	•	Á	#1	
PCB-1248		•	ND		9.87	•	. 4	*	M		
PCB-1254		•	ND		9.87	*	" .	•		. •	
PCB-1260		• .	ND		9.87		1)	n	•	09/11/09 21:58	
Surrogate(s):	TCX		r	65.3%		27.9	- 154 %	#		n	
	Decachlorobiphenyl			57.2%		35	- 157 %	n		<i>n</i> .	
SH0166-02	(G-BH1-7.5-082809)		Soi	1		Samp	oled: 08/	28/09 12:10			
PCB-1016		EPA 8082	ND		9,95	ug/kg dry	1 x	9090048	09/09/09 09:20	09/11/09 22:21	
PCB-122 i		*	ND	. — :	9,95	*	ų	•	₹.	09/11/09 21:58	
PCB-1232		•	ND		9.95	*	×				
PCB-1242		-	ND		9.95	ħ			•		
PCB-1248		. •	ND		9.95	#	. •	"		•	
PCB-1254			ND	_	9.95			н .	•	н	
PCB-1260			ND	-	9.95		*		•	09/11/09 22:21	
Surrogate(s):	TCX			96.1%		27.9 -	- 154 %	R		n	
- '*	Decachlorobiphenyl			93.6%		35 -	. 157 %	Ħ		n	
SH0166-03	(G-BH1-16-082809)		Soi	l		Samp	led: 08/2	28/09 12:30	•		
CB-1016	<u>, , , , , , , , , , , , , , , , , , , </u>	EPA 8082	ND		9.93	ug/kg dry	1 x	9090048	09/09/09 09;20	09/11/09 22:44	
CB-1221	•	•	ND	· _	9,93	w		•		09/11/09 22:21	
CB-1232		#	ND	_	9,93	**	H	н,		11	
CB-1242	•		ND		9,93	**	,	H	H	ч	
CB-1248		H 1	ND	_	9.93		•	*	N .	•	
CB-1254		H	ND	·	9.93	•					
CB-1260		Ü	'ND		9.93	Ħ	ь	н	•	09/11/09 22:44	
Surrogate(s):	TCX			74.5%		27.9 -	154 %	и			
5 17	Decachlorobiphenyl			76.8%			157 %	н		n	

TestAmerica Spokane

Randee Dacker, Project Manager

Amended Report

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SPOKANE, WA

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Name: Project Number: **Avery Landing** 073-93312-03

Project Manager:

Doug Morell

Report Created: 10/01/09 11:30

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-04	(G-BH2-7.5-082809)		So					28/09 09:50	- 2 shows are		. 13163
PCB-1016	(3-212-14-004007)	EPA 8082	ND		9,68	ug/kg dry	lx	9090048	09/09/09 09:20	09/11/09 23:06	·
PCB-1010	•	E A 0022	ND	_	9.68	okiva mi		9090046 4	11	09/11/09 22:44	
PCB-1232			ND ND		9.68				Ħ	# ZZ,44	
PCB-1242			ND		9,68		ır		*		
PCB-1248		u u	ND		9.68		. •	#	#	*	
PCB-1254	*	u	ND		9,68		47	н	ti		
PCB-1260		*	ND		9,68		•		h	09/11/09 23:06	
Surrogate(s):	TCX			81.1%		27 0	- 154 %		· · · ·	, , , , , , , , , , , , , , , , , , ,	
Day og albly.	Decachlorobiphenyl			78.1%			- 157 %	H	•	н '	
SSH0166-05	(G-BH2-Surf-082809)		Soi	1		Sam	pled: 08/	28/09 09:15			
PCB-1016		EPA 8082	ND	-	9,66	ug/kg dry	lx	9090048	09/09/09 09;20	09/11/09 23:29	
PCB-1221		w	ND .		9,66	H				09/11/09 23:06	
CB-1232	4	n	ND		9.66	π -				•	
PCB-1242			ΝD		9.66	*			•	•	•
PCB-1248		×	ND	_	9.66	*		h	•	•	
PCB-1254			ND		9,66			h	•	•	
PCB-1260			ND		9.66	x		ų	M	09/11/09 23:29	
Surrogate(s):	TCX			96.9%		27.9	- 154 %				
,	Decachlorobiphenyl			69.6%			- 157 %	37			
SH0166-06	(G-BH2-15-082809)		Soi	· I		Sami	pled: 08/	28/09 10:10			
CB-1016		EPA 8082	ND		9.85	ug/kg dry	1x	9090048	09/09/09 09:20	09/11/09 23;51	
CB-1221		.	ND		9.85	Ħ			н .	09/11/09 23:29	
CB-1232		T	ND		9.85	Ħ	•	n	H	d .	
CB-1242		•	ND		9.85	ŧ		4		n	•
CB-1248			ND	·	9.85			۳.	•	в	
CB-1254		19	ND		9.85	n	-	4	4	*	
CB-1260	•	•	ND		9.85	77	*			09/11/09 23:51	
Surrogate(s):	TCX			76.1%		27.9	- 154 %	W.		,	
	Decachlorobiphenyl			39.8%		35	- 157%	ti .			

TestAmerica Spokane

Amended Report

tandi Randee Decker, Project Manager



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Project Number: Project Manager:

Avery Landing 073-93312-03

Doug Morell

Report Created:

10/01/09 11:30

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte	<u>, </u>	Method	Result	MDL*	MRL	Units	Dil	Batch	· Prepared	Analyzed	Note
SSH0166-07	(G-BH3-Surf-082709)		So	il		Samj	pled: 08/2	27/09 16:10			
PCB-1016		EPA 8082	ND		9.76	ug/kg dry	lx	9090048	09/09/09 09:20	09/14/09 23:29	
PCB-1221			ND		9.76		и	•	7	09/14/09 23:06	
PCB-1232			ND		9.76	•			.*	н	
PCB-1242		•	ND		9.76	•	μ		•	и	
PCB-1248		•	ND		9,76	•	μ		P):	11	
PCB-1254		. .	ND		9.76	н			•	. •	
PCB-1260			ND		9.76	4	"		u	09/14/09 23:29	
Surrogate(s).	TCX			67.6%		27.9	- 154 %	,,		п	
	Decachlorobiphenyl			61.2%		35 -	- 157 %	*		,,	
SSH0166-08	(G-BH3-7.5-082709)		Soi	i		Samp	led: 08/2	27/09 16:45			
PCB-1016		EPA 8082	ND		9.84	ug/kg dry	ix	9090048	09/09/09 09:20	09/14/09 23:52	
PCB-1221		н	ND		9.84	20	31	15	u .	09/14/09 23:29	
PCB-1232		*	ND		9.84	•	•		u	•	
PCB-1242	* *	#	· ND		9.84			к	ч .		
PCB-1248		. н	ND		9.84	•	*	•	ų		
PCB-1254		#	ND		9.84		٠	•	. н	*	
PCB-1260	· ·	•	ND		9.84	۳	*	•	ш	09/14/09 23:52	
Surrogale(s):	TCX Decachlorobiphenyl			73.7% 63.9%	,		- 154 % - 157 %	# #		n n	
SH0166-09	(G-BH3-15-082709)		Soi	l .		Samp	iled: 08/2	7/09 17:15			
CB-1016		EPA 8082	ND		9.87	ug/kg dry	וא	9090048	09/09/09 09;20	09/15/09 00:14	
CB-1221			ND		9.87		•	ŧ		09/14/09 23:52	
CB-1232	•	•	ND		9.87	*	•	*		D	
CB-1242	•	*	ND		9.87	11	•	. 1	π	•	
CB-1248			ND		9.87	•	н	¥	н	Ħ	
CB-1254		I	ND		9,87	n	В	•	н .	11	
CB-1260		•	ND	-	9.87		. 4	a	μ	09/15/09 00:14	
Surrogate(s):	TCX	,		70.9%		27.9 -	154%				
- 17	Decachlorobiphenyl			67.9%			157%	H		, ,	

TestAmerica Spokane

Amended Report

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SPOKANE, WA

11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name: Project Number: Project Manager:

: Avery Landing

073-93312-03

Doug Morell

Report Created:

10/01/09 11:30

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-10	(G-BH4-Surf-082709)		Sei	il		Sam	pled: 08/	27/09 09:50			
PCB-1016		EPA 8082	ND		9,86	ug/kg dry	lχ	9090048	09/09/09 09;20	09/15/09 00:37	
PCB-1221		*	ND		9.86		н	•	Ħ	09/15/09 00:14	
PCB-1232		11	ND	—	9.86	•	•	•	n		
PCB-1242		11	ND		9.86	-		ŧ	Ħ	*	
PCB-1248		*	ND		9.86	•	×	H	F	*	
PCB-1254		.	ND		9.86	•	•	Ħ		•	
PCB-1260		H	ND	_	9.86	•	•	H	•	09/15/09 00:37	
Surrogate(s):	TCX			88.5%		27.9	- 154 %	"		. "	
	Decachlorobiphenyl			65.2%		35	- 157 %	u		н .	
SH0166-11	(G-BH4-7.5-082709)		Soi	1		Samp	oled: 08/	27/09 10:20			
CB-1016		EPA 8082	ND		9.95	ug/kg dty	lx	909004B	09/09/09 09:20	09/17/09 07:17	
CB-1221		H	ND		9.95		n	•	. 4	•	
CB-1232		*	ND ·	_	9.95	•	•	*	•	•	
CB-1242		*	ND	-	9.95	•	•	#	b	•	
CB-1248		*	ND .		9.95		*	m		•	
CB-1254		•	ND	_	9.95	•.	-	W.	•	•	
CB-1260	<u> </u>	н	ND		9.95		*			•	
Surrogate(s):	TCX			102%		27.9	- 154%	er .		n	
	Decachlorobiphenyl			21.0%		35 -	- 157 %			r .	Z
SH0166-12	(G-BH4-15-082709)		Soi	l		Samp)led: 08/2	27/09 10:15			
CB-1016		EPA 8082	ND		9.52	ug/kg dry	1×	9090048	09/09/09 09:20	09/15/09 00:59	-
CB-1221			ND		9,52			. 4	n	09/15/09 00:37	
CB-1232			ND		9,52	• *	•		•	*	
CB-1242		•	ND		9,52		•	H	•	*	
CB-1248		•	ND		9.52		*	*			
CB-1254		W	ND		9,52	•	•	Ħ		H	
CB-1260			МD		9,52	•	Ħ	• ,	. •	09/15/09 00:59	
Surrogate(s):	-TCX			32.5%		27.9	154%				
	Decachlorobiphenyl			34.8%		35	157%	ø	•	"	Z

TestAmerica Spokane

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph; {509} 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

Project Number:

Avery Landing 073-93312-03

Project Manager:

Doug Morell

Report Created:

10/01/09 11:30

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dif	Butch	• Ргерагей	Analyzed	Notes
SSH0166-13	(G-BH5-Surf-082709)		Sai	1		Samj	pled: 08/	27/09 12:40			
PCB-1016		EPA 8082	ND		9.85	ug/kg dry	lx	9090048	09/09/09 09:20	09/15/09 01:22	
PCB-1221		*	ND		9.85			μ	H	09/15/09 00:59	
PCB-1232		•	ND	_	9,85	•		•	•	11	
PCB-1242			ND		9,85	•	•			w .	
PCB-1248		w	ND	· —	9,85	н	•	*	×	tu	
PCB-1254		#	ND	_	9.85	•	*		۳	-	
PCB-1260		•	ND		9,85	•	*		H	09/15/09 01:22	
Surrogate(s):	TCX			85.0%		27.9	- 154 %	# ·		**	
	Decachlorobiphenyl			58.8%		35	- 157 %	"		"	
SH0166-14	(G-BH5-7.5-082709)	<u>.</u>	Soi	1		Samp	oled: 08/	27/09 13:20			
PCB-1016		EPA 8082	ИD		9,98	ug/kg dry	lx	9090048	09/09/09 09:20	09/17/09 07:40	•
CB-1221		•	ND		9.98	•	•		Ħ	11	
PCB-1232	·	•	ND		9.98	•		,	*	**	
CB-1242		*	. ND		9.98	н .			*		
CB-1248		*	ND		9.98			H	ü	•	
PCB-1254		*	ND		9,98	н	н		, n	*	
CB-1260		•,	ND		9.98	•	υ.	н	. н	P	•
Surrogate(s);	TCX			60.3%		27.9	- 154 %	n		п .	
- 11	Decachlorobiphenyl		•	23.0%		35 -	- 157 %	n	•	n .	z
SH0166-15	(G-BH5-15-082709)		Soi	l		Samp	oled: 08/2	27/09 13:45			
CB-1016		EPA 8082	ND		9.74	ug/kg dry	1x	9090048	09/09/09 09:20	09/15/09 02:30	
CB-1221			ND	 .	9.74	h	4.	*1	H	09/15/09 01:22	
CB-1232		н .	ND		9.74	"	Ħ	•		•	
CB-1242		*	ND		9.74	•	71	• .	. •	*	
CB-1248		٠.	. ND		9.74	•	-	•			
CB-1254		#	ND		9,74	٠		•			
CB-1260		×	ND		9.74	*		н	, н	09/15/09 02:30	
Surrogate(s):-	TCX			61.3%		27.9	- 154 %			09/15/09 01:45	
- "	Decachlorobiphenyl			49.2%		35 -	- 157 %	*		"	

TestAmerica Spokane

Amended Report

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SPOKANE, WA

11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

, Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created;

10/01/09 11:30

Semivolatile Petroleum Products by NWTPH-Dx

			TestAme	nca Spo	капе					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-01 (G-BH1-Surf-08280	9)	So	ij		Samı	pled: 08/	28/09 11:35			
Diesel Range Hydrocarbons	NWTPH-Dx	37.8		10.3	mg/kg đry	lx	9090006	09/01/09 13:16	09/11/09 20:23	
Heavy Oil Range Hydrocarbons	. "	349		25.7	. "	#			•	
Surrogate(s): 2-FBP			90.4%		50	- 150 %	и .		"	
p-Terphenyl-d14			103%		50	- 150 %	п		u	
SSH0166-02 (G-BH1-7.5-082809)	,	Soi	it		Samp	oled: 08/	28/09 12:10		,	
Diesel Range Hydrocarbons	NWTPH-Dx	ND		113	mg/kg dry	10x	9090006	09/01/09 13:16	09/11/09 20:46	
Heavy Oil Range Hydrocarbons	#	201		170	•	•	w			
Surrogate(s): 2-FBP			104%		50 -	- 150 %	н		и	
p-Terphenyl-d]4			123%		50	- 150 %	n		*	
SSH0166-03 (G-BH1-16-082809)		Soi	1		Samp	oled: 08/	28/09 12:30			
Diesel Range Hydrocarbons	NWТРН-Dx	262		14.6	mg/kg dry	lx	9090006	09/01/09 13:16	09/11/09 21:10	
Heavy Oil Range Hydrocarbons		96,4		36.5		#	н ,	R		
Surrogate(s): 2-FBP			114%		50 -	150 %	Ñ		,	
p-Terphenyl-d14			110%		50 -	- 150 %	Ħ		, * .	
SSH0166-04 (G-BH2-7.5-082809)		Soi	<u> </u>		Samp	led: 08/	28/09 09:50			
Diesel Range Hydrocarbons	NWTPH-Dx	ND	_	11.5	mg/kg dry	1x	9090006	09/01/09 13:16	09/11/09 21:33	
Heavy Oil Range Hydrocarbons		ND		28.8	п	4	•	#	•	
Surrogate(s): 2-FBP			90.8%		50 -	- 150 %	н .		" -	
p-Terphenyl-d14			113%		50 -	- 150 %				
SSH0166-05 (G-BH2-Surf-082805))	Soi	I		Samp	led: 08/2	28/09 09:15			٠
Diesel Range Hydrocarbons	NWTPH-Dx	ND		11,0	mg/kg dry	1x	9090006	09/01/09 13:16	09/11/09 21:57	
Heavy Oil Range Hydrocarbons		60,1	-	27,4	**	•	Ħ	` H	н	
Surrogate(s): 2-FBP			97.9%			150 %	u		n	
p-Terphenyl-d14			11496		50 -	150 %	n		n	•
SSH0166-06RE1 (G-BH2-15-08280	9)	Soil			Samp	led: 08/2	8/09 10:10			
Diesel Range Hydrocarbons	NWTPH-Dx	20.7	_	13.7	mg/kg dry	lx	9090170	09/01/09 13:16	09/28/09 11:52	
Heavy Oil Range Hydrocarbons	ь	50,7		34.2	h	٠	Ħ		н	
Surrogate(s): 2-FBP			88.0%		50 -	150 %	er .		n	
p-Terphenyl-d14			129%		50 -	150 %	ar .		. "	

TestAmerica Spokane

Randee Decker, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of oussedy document. This analytical report must be reproduced in its entirety.





SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 (ax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 11:30

Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

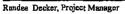
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-07 (G-P	3H3-Surf-082709)		Soi	I		Samp	led: 08/	/27/09 16:10			
Diesel Range Hydrocarb	ons	NWTPH-Dx	ND		21,2	mg/kg dry	lx	9090006	09/01/09 13:16	09/11/09 22:44	
Heavy Oil Range Hydro	сатьоня		91.1		53.0	"	*	*1		H	
Surrogate(s): 2-F	7BP			97.0%		50.	150 %	,		. "	
` p-1	Terphenyl-d14		,	116%		50 -	150 %	*		и	
SSH0166-08 (G-B	H3-7.5-082709)		Sei	<u> </u>		Samp	led: 08/	27/09 16:45			
Diesel Range Hydrocar	bons	NWTPH-D _X	12.2		11.2	mg/kg dry	Iχ	9090006	09/01/09 13:16	09/11/09 23:07	
Heavy Oil Range Hydro	ocarbons	u	37.5		28.0	•	•		t:		
Surrogate(s): 2-F	BP			97.9%		50 -	150 %	"		н	•
p-7	erphenyl-d14			119%		50 -	150 %	и		n	
SSH0166-09 (G-B	H3-15-082709)		Soil			Samp	led: 08/	27/09 17:15			
Diesel Range Hydrocarl	ions	NWTPH-D _K	601		26,0	mg/kg dry	1x	9090006	09/01/09 13:16	09/12/09 00:17	
Heavy Oil Range Hydro	carbons		345		64,9	•	*	Ð	¥	n	
Surrogate(s): 2-F	BP			113%		50 -	150 %	"		н	•
p-T	erphenyl-d14		,	116%		50 -	150 %	Þ		b	
SSH0166-10 (G-B	H4-Surf-082709)		Soil			Samp	led: 08/	27/09 09:50		•	
Diesel Range Hydrocarbo	ons	NWTPH-D _K	ND		21.4	mg/kg đry	lx	9090006	09/01/09 13:16	09/12/09 00:41	
Heavy Oil Range Hydro	carbons	•	68.6		53.6		K	w	•	n	
Surrogate(s): 2-F	BP			95.3%		50 -	150 %	"		"H	
ρ-Τ	erphenyl-d14.			117%		50 -	150 %		•	**	
SSH0166-11 (G-B	114-7.5-082709)		Soil			Samp	led: 08/	27/09 10:20			
Diesel Range Hydrocarb	ons	NWTPH-Dx	2380		108	тід/ка фту	5x	9090006	09/01/09 13:16	09/12/09 01:04	
Heavy Oil Range Hydro	carbons	•	1360		270		•	•			
Surrogate(s): 2-F	BP			108%		50 -	150 %	н		n	
p-To	erphenyl-d14		(54.2%		50 -	<i>150 %</i>	n		ħ	
SSH0166-12 (G-B	H4-15-082709)		Soil			Samp	led: 08/	27/09 10:15			
Diesel Range Hydrocarb	Ori5	NWTPH-D _X	19.2		12,5	mg/kg dry	lx	9090006	09/01/09 13:16	09/12/09 01:28	
Heavy Oil Range Hydroca	arbons	#	ND		31,3		•			. 0	
Surrogate(s): 2-Fi	BP .		5	8.7%		50-	150 %	w		u	-
p-Te	erphenyl-d14			119%		50 -	150 %	n			

TestAmerica Spokane

1 - 1

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



<u>tarai</u>





SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Amended Report

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number.
Project Manager:

073-93312-03

Doug Morell

Report Created: 10/01/09 11:30

Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

				1030 11110	itor opt	Ranc					
Analyte		Method	Result	MDL*	MRL	Unita	Dil	Batch	Prepared	Analyzed	Notes
SSH0166-13 (G-B)	H5-Surf-082709)		So	1		Samp	oled: 08/	27/09 12:40			
Diesel Range Hydrocarb	oos	NWTPH-D _X	30.1		21.4	mg/kg dry	1x	9090006	09/01/09 13:16	09/12/09 01:51	
Heavy Oil Range Hydro	carbons	μ	201	_	53,5	v	•	•			
Surrogate(s): 2-FI	BP .			89.0%		50	- 150 %	н		0	
p-Te	erphenyl-d14			106%		50	- 150 %	H		4	
SSH0166-14 (G-BI	H5-7.5-082709)	· · · · · · · · · · · · · · · · · · ·	Soi	I		Samp	led: 08/	27/09 13:20			
Diesel Range Hydrocarb	ous	NWTPH-Dx	1060		45.4	mg/kg dry	2x	9090006	09/01/09 13:16	09/12/09 02:15	
Henvy Oil Range Hydroc	carbons	4	703		113	*	ń `	•	IL.	•	
Surrogate(s): 2-FL	BP .		<u>-</u>	117%		50 -	150 %	ņ		"	
p-Te	rphenyl-d14			107%		50 -	- 150 %	н		N .	
SSH0166-15 (G-BI	H5-15 <u>-</u> 082709)		Soi	I		Samp	led: 08/2	27/09 13:45			
Diesel Range Hydrocarb	005	NWTPH-D _K	109		12.2	mg/kg dry	1 x	9090006	09/01/09 13:16	09/12/09 02:38	•
Heavy Oit Range Hydroc	arbons	u	170	· .	30,5	В	•	n		•	
Surrogate(s): 2-FE	3P	<u> </u>		90.6%		50 -	. <i>150</i> %	ıı		н	
p-Te	rphenyl-d14			102%		50 -	150 %	"		,,	

TestAmerica Spokane

Randee Decker, Project Manager

Amended Report

The results in this report apply to the samples onalyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



e Inte

ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE:

May 12, 2010

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of 24 samples collected from the Avery Landing site in Avery, Idaho, was performed by Golder Associates, Inc., Redmond, Washington. The validation was performed as listed in the Tier III and IV Data Validation Summary Checklist (attached). Target analyte list (TAL) metals (EPA Methods 6010, 6020, and 7470A), Volatile Organic Compound (VOC; EPA Method 8260), polychlorinated biphenyl (PCB; EPA Method 8082), diesel-range total petroleum hydrocarbons (Method NWTPH-Dx), and semivolatile organic compounds (SVOCs; EPA Methods 8270 and 8270-SIM) analyses were performed by Test America, Spokane Valley, Washington.

The samples were numbered:

GTP1-10.5-082709	GTP1-13.5-082709	GTP3-3.5-082709	GTP3-5-082709
GTP3-13.5-082709	GTP4-2.5-082709	GTP4-8.0-082709	GTP5-3.0-082709
GTP5-7.0-082709	GTP6-10-082809	GTP6-2.5-082809	GTP6-17-082809
GTP6-2.5-082809	GTP7-10.0-082809	GTP7-18-082809	GTP2-2.5-082709
GTP2-8-082709	GTP2-13-082709	GTP1-2.5-082709	GTP5-11-082809
TS-COMP-1	TS-COMP-2	TS-COMP-3	GTP4-6.0-082709

See the attached Checklists and associated data results pages provided by Golder Associates for qualified sample results.

GOLDER PROJECT #: 073-933	12.05	SITE: Avery Landing/ POTLATCH / Idaho							
LABORATORY: Test America		SDG: SSH0168							
SAMPLES	Collect	MATRIX							
SSH0168-01 % 27.09	and Stho	168-14	8-28-09	Soil					
SSH0168-02	1	-15	.]	<u> </u>					
SSH0168-03		-16							
SSH0168-04)		-17	8-27-09						
SSH0168-05		-18							
SSH0168-06)	-19							
SSH0168-07		-20							
SSH0168-09		-21	8-28-09						
SSH0168-10		-22	8-27-09						
SSH0168-11 8-28-09		-23	1						
SSH0168-12	٠٠.	-24							
SSH0168-13	7	-25	4						

DATA ASSESSMENT SUMMARY

REVIEW ITEM	ICP/.		Hg/ Se 7074	CN	Anions	OTHER
I. Data Completeness	~		0			
2. Holding Times		5 0				1
3. Calibration	7					
4. Blanks	→ €					
5. Lab Duplicate, Field Duplicate RPD		5				
6. LCS, Blank Spike, MFS	→ ×	2	3			
7. Matrix Spike, MSD	→	30				
8. GFAA, MSA Serial Dil.	×	3 × 3				
9. Detection Limits, Other QC		4	10			•
10. Data Verification, Overall Summary						

0=	Data	had	по	prob	lems

Comments/Qualified Results: (1) Cd + Th determined as 1	referd in prop blank; multiple
② Na recovery in LCS V \$ asser. V	esults qual. (This).
(3) Sample -01 & -13 qualif (5/4)	
1 Fe & Ag clonot meet Regulato	ty so their Level 10 the KL.
	<u> </u>
Validated by: Reviewed by:	Date: Nov.10, 2009 Date:

 $[\]Theta$ = Problems, but do not affect data

X = Data qualified due to minor problems [typically estimated data (J or UJ)].

M = Data qualified due to major problems [typically more than 50% qualified (J/UJ).

Z = Data unacceptable [typically data rejected (R).

	· · · · · · · · · · · · · · · · · · ·	Acceptable: YES NO	
1. Date Package Completeness (Check if	present)	🗚 🖯]
Case narrative Chain of Custody Sample Results ICV/CCV Results Blank Results ICP Interference Check Results Spike Recovery Results Duplicate Results LCS Results Standard Addition Results ICP Serial Dilution	Unstrument Det. Limits UCP Correction Factors UCP Linear Ranges ✓ Preparation Logs ✓ Analysis Run Logs ✓ ICP Raw Data OGFAA Raw Data ✓ Hg Raw Data Ocyanide Raw Data Other	/ Acceptable x Absent Not required for data package requested.	
Comments/Qualified Results:			_
,		· •	_
			_
			_
2. Holding Times (Check all that apply) _ICP/GFAA metals completed in <6 months from collection _Mercury analyzed in <28 days from collection _Cyanide completed in 14 days from collection		127 🗆	
Comments/Qualified Results:	e Summary	page-No	3 Jua
			_
			_
			_
		<u>.</u>	_
		/	
3. Calibrations (Check all that apply)	· · · · · · · · · · · · · · · · · · ·		3
_ICV/CCV %R for ICP/AA, 90%-110%, acceptable _ICV/CCV %R for ICP/AA, 75%-89% or 111%-125%,	ICV/CCV %R for Hg, 65% results estimated (J/UJ)	·	
esults estimated (J/UJ) _ICV/CCV %R for ICP/AA, <75% or >125%, reject ositive results (R)	ICV/CCV %R 85-115% for acceptable ICV/CCV %R 70-84% or 1		
ICV/CCV %R 80-120% for Hg, results accepted _CRDL Check Stnd %R 70 = 130, (50-150 SbPbTl)	estimated (J/UJ)ICV/CCV %R <70% or >13)
Comments/Qualified Results: Associo	ted Samples t	tive lates	th.
9/14-9/16 Datch-NO B	PUALIF Apolia	٦,	

4. Blanks					Acceptable		YES	NO	-
	(Check all that ap	oply)	••••		***************************************			X	
	orted in ICB/CCB list:								
	reparation blanks, list: eld blanks, list			•				•	
	old Biglikoj net								
Qualified a	s undetected (U)	all sample o	or	ncentrations ≤1	0X anv asso	ciat	ed bla	nk	
	ions and less tha							-	
•		·							
Comments	/Qualified Result	s:_ <i>6</i> 010 -	<u>- 1</u>	Vo qualit				_	
6020	#	10 resette	1	82/161	7074	Цç	# 4	9654	
36	-138 wg/K			7.72			4	9657	_
→ Ba	. 29 <u>8</u>		<u> </u>	.072		_		<u> </u>	
	170		<u>a</u> _	.159					
→ Cd	.206)	<u>C</u> _	<u> </u>	1022					
<u>G0</u>	.0096	14	2_	-069					
<u>Cu</u>	.050	<u> </u>		480					_
	-154	<u>V</u>		1.66					
→ (Th.	.65								
<u> </u>	29								_
	tes (Check all tha					••••	le:	L	
_Duplicate RP _Duplicate ran	D ≤20% for waters (≤3 ge is within ±CRDL (± 2	5% for soils) for r	esu	ults >5X CRDL		••••	182	L	
_Duplicate RP _Duplicate ran _Field Duplica	PD ≤20% for waters (≤3: ge is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI				_	.
_Duplicate RP _Duplicate ran _Field Duplica	D ≤20% for waters (≤3 ge is within ±CRDL (± 2	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI		····,			
_Duplicate RP _Duplicate ran _Field Duplica	PD ≤20% for waters (≤3: ge is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI					
_Duplicate RP _Duplicate ran _Field Duplica	PD ≤20% for waters (≤3: ge is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI					
_Duplicate RP _Duplicate ran _Field Duplica	PD ≤20% for waters (≤3: ge is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI					
_Duplicate RP _Duplicate ran _Field Duplica	PD ≤20% for waters (≤3: ge is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI					
_Duplicate RP _Duplicate ran _Field Duplica	PD ≤20% for waters (≤3: ge is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI					
_Duplicate RP _Duplicate ran _Field Duplica	PD ≤20% for waters (≤3: ge is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI					
_Duplicate RP _Duplicate ran _Field Duplica	PD ≤20% for waters (≤3: ge is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil —	esu s) fo	ults >5X CRDL or results <5X CRDI					
Duplicate RP Duplicate ran Field Duplica Comments/	PD <20% for waters (<3: tige is within ±CRDL (± 2 te ID	5% for soils) for r 2X CRDL for soil 5 50177	esu s) fo	ults >5X CRDL for results <5X CRDL	(50/82°)			
Duplicate RP Duplicate ran Field Duplica Comments/	D ≤20% for waters (≤3: tige is within ±CRDL (± 2 te ID Qualified Results # 50224 19654 ory Control Sam	5% for soils) for record for soil. SOITT	esu s) fo	ults >5X CRDL for results <5X CRDL	(50/82°)			
Duplicate RP Duplicate ran Field Duplica Comments/	ory Control Sam	5% for soils) for record for soil. SO 177 apples, Blank	results) for	ults >5X CRDL for results <5X CRDL	(50/82°)			
Duplicate RP Duplicate ran Field Duplica Comments ACC Laborat LCS %R 80-1 LCS %R 50-7	PD <20% for waters (<38 to ge is within ±CRDL (± 2 to ID	pples, Blank	results) for	ults >5X CRDL for results <5X CRDL	(50/82°)			
Duplicate RP Duplicate ran Field Duplica Comments Laborat LCS %R 80-1 LCS %R 50-7 LCS %R 50-7 LCS %R 50-7	ory Control Sam	pples, Blank Sbj citimated (UJ)	results) for	ults >5X CRDL for results <5X CRDL	(50/82°)		(-17)	
Duplicate RP Duplicate ran Field Duplica Comments Comments LCS %R 80-1 LCS %R 80-7 LCS %R 50-7 LCS %R <50-7 LCS %R <50-7	PD <20% for waters (<38) rige is within ±CRDL (± 2) right te ID	stimated (UJ)	results) for	olts >5X CRDL for results <5X CRDI	all that apply)			WT A
Duplicate RP Duplicate ran Field Duplica Comments Comments LCS %R 80-1 LCS %R 80-7 LCS %R 50-7 LCS %R <50-7 LCS %R <50-7	PD <20% for waters (<38) rige is within ±CRDL (± 2) right te ID	stimated (UJ)	results) for	ults >5X CRDL for results <5X CRDL	all that apply)		(I)	WT) A1
Duplicate RP Duplicate ran Field Duplica Comments Comments LCS %R 80-1 LCS %R 80-7 LCS %R 50-7 LCS %R <50-7 LCS %R <50-7	PD <20% for waters (<38) rige is within ±CRDL (± 2) right te ID	stimated (UJ)	(S	olts >5X CRDL for results <5X CRDI	all that apply)	2182	Contract of the contract of th	W.T A

Spike %R with 75-125% Spike %R 30-74%, >125%, results > IDL est. (J) Spike %R 30-74% results <idl (uj)<="" estimated="" th=""><th>Spike %R <30%, results <idl (ur)<br="" rejected="">Field blanks used for spike analysis Post digest spk rqrd: %R 75-125%, excpt Ag</idl></th></idl>	Spike %R <30%, results <idl (ur)<br="" rejected="">Field blanks used for spike analysis Post digest spk rqrd: %R 75-125%, excpt Ag</idl>
Spike fold 30-14% results with estimated (03)	
Comments/Qualified Results:	section (7). No Quals.
,	
9. GFAA Performance, MSA, or Serial Dilu	tions
Duplicate injection RSD <20%	
Duplicate injection RSD >20%, results > CRDL estimated (J _ Analytical spike %R 85-115%	n)
Analytical spike %R 40-85%, results > IDL estimated (J)Analytical spike %R 10-40%, results <idl %r="" (r)<="" (uj)analytical="" <10%,="" <idl="" estimated="" rejected="" results="" spike="" td=""><td></td></idl>	
	C (C (C (C (C (C (C (C (C (C (
Comments/Qualified Results: Serial	Dileter on Sample -01 qual
Fe, AL, Co, Zn assoc. results	Sua 15 (43).
Sample -13 quality te, M	g, Al, Cu, Ni, Kn (lat)
	→ / -
10. Detection Limits. Other OC	
10. Detection Limits, Other QC	
10. Detection Limits, Other QC	
	s notinget Reg Screen Leve
Comments/Qualified Results: ICD-V AG @ 1 wg/Kg for RL doe	es notment Reg Screen Leve
Comments/Qualified Results: ICS-V AG @ 1 wg/Kg for RL doe	es notinget Reg Screen Leve
Comments/Qualified Results: ICS-V AG @ 1 wg/Kg for RL doe	es notineet Reg Screen Leve
Comments/Qualified Results: ICD-V AG @ 1 wg/Kg For PL doe Fe @ 10 " " " "	s notmeet Reg ScreenLeve
Comments/Qualified Results: ICD-V AG @ 1 wg/Kg For PL doe Fe @ 10 " " " "	es noting the Screen Leve
Comments/Qualified Results: ICS-V AG @ 1 wg/Kg for PL doe Fe @ 10 " " "	
Comments/Qualified Results: ICD-V AG @ 1 wg/Kg For PL doe Fe @ 10 " " " "	
Comments/Qualified Results: ICD-V AG @ 1 wg/kg for PL doe Fe @ 10 '' '' '' 1. Data Verification and Overall Assessment	
Comments/Qualified Results: ICS-V AG @ 1 wg/Kg for PL doe Fe @ 10 " " "	
Comments/Qualified Results: ICD-V AG @ 1 wg/kg for PL doe Fe @ 10 '' '' '' 1. Data Verification and Overall Assessment	
Comments/Qualified Results: ICD-V AG @ 1 wg/kg for PL doe Fe @ 10 '' '' '' 1. Data Verification and Overall Assessments/Qualified Results:	



SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 pb: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager. 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP)

		<u> </u>		TestAme	erica Ia	coma				-		_
Analyte		Method	Result G	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
SSH0168-01	(GTP1-10.5-082709)	Soil			Samp	led: 08/2	7/09 09:40				
Calcium		6010B TMP Dry	1600	2.0	72	mg/Kg dry	lх	50177	09/14/09 11:16	09/14/09 21:38		
Iron		n	15000 J	0.63	13	\$1	*	ıı	**	•		3
Magnesium		41	5700	0.87	72	•	•	н	u	r		3
Potassjum	•	*	1400	21	220		٠	#	*			
Silver			ND	0.059	1.3	*	ji	*	п	•		
Sodium			ND UT	8.9	130	1 🖷 -	H	ŋ·	n	F	. •	
SSH0168-02	(GTP1-13.5-082709)	<u> </u>	Soil			Samp	led: 08/2	7/09 10:10				
Calcium		6010B TMP Dry	1500	1.5	57	mg/Kg dry	1x	50177	09/14/09 11:16	09/14/09 22:06		
Iron		•	13000	0.48	10	* .		11	ú	•		1
Magnesium		F	3900	0.68	57	•		U	'n	"		E
Potessium		•	1200	17	170	•	n	*		*		
Silver		Ħ	ND	0.046	1,0		4	1)	•	•		
Sodium		*	ND U.Z	7.0	100	и ·	μ	4	, #	u _.	•	
SSH0168-03	(GTP3-3.5-082709)	*	Soil			Samp	led: 08/2	7/09 14:15				
Calcium		6010B TMP Dry	5200	1.6	58	mg/Kg dry	lx ·	50177	09/14/09 11:16	09/14/09 22:10		
Iron	,		15000	0.49	11	н		ĸ	Ħ	4		E
Magnesium	•	н	9600	0.70	58	Ħ	•	*	*	H		H
Potassium	•		2900	17	170	•	н	, h		•		
Silver			ND	0.047	1.1	• .	. *	μ		н '		
Sodium		.	ND UJ	7.2	110	•	•	*	"		•	
SSH0168-04	(GTP3-5-082709)		Soil			Samp	led: 08/2'	7/09 14:35			•	
Calcium		6010B TMP Dry	5300	1.9	71	mg/Kg dry	îx	50177	09/14/09 11:16	09/14/09 22:14		
Iron			12000	0.59	13	Ħ	*	н		u		В
Magnesium		- 19	5300	0.85	71	*			•	**		В
Potassium		н	2100	21	210	•						
Silver	*	и	ND	0.058	1.3		*	u	4:	u		
Sodium			ND UJ	8.8	130		н -	P				

TestAmerica Spokane

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SPOKANE, WA

11922 E. 1ST AVENUE SPOKAWE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax; (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP)

TestAmerica Tacoma

Analyte		Method	Result 🔷	-MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-05	(GTP3-13.5-082709)		Soil			Sam	pled: 08/2	27/09 14:49			
Calcium		6010B TMP Dry	1800	1.9	68	mg/Kg dry	lx	50177	09/14/09 11:16	09/14/09 22:17	
Iron		•	20000	0.57	12		h	M	•	ц	
Magnesium		u	6100	0.82	83	•	в	Ħ	•	н	
Potassium	•	D.	2800	20	200	. и	r	*	•		
Silver			ND	0.056	1.2	•	*	**		n	
Sodium		•	TN dn	8.4	120		•	•	*	tr	•
SSH0168-06	(GTP4-2.5-082709)	•	Soil			Samp	oled: 08/2	27/09 15:40			
Calcium		6010B TMP Dry	2500	1.5	55	mg/Kg dry	lx	50177	09/14/09 11:16	09/14/09 22:21	
Iron ·		**	14000	0.46	10	•	•		N	.₩	
Magnesium		н	3300	0.66	55			n -	ħ	н	
Potassium		н	1200	16	170			n	•	и .	
Silver		M	ND	0.045	1.0		•	, b ,	**	W	
Sodium		n .	ND UJ	6.8	100	ú	•	•	•	, i t	*
SSH0168-07	(GTP4-8.0-082709)		Soil			Samp	led: 08/2	27/09 15:59			
Calcium		6010B TMP Dry	900	1.6	59	mg/Kg dry	1x	50177	09/14/09 11:16	09/14/09 22:25	-
Kron		•	12000	0.49	11	m	•	11	· h	*	
Magnesium			3200	0.71	59	#	•	*	н.	•	:
Potassium		11	1100	17	120	#	*	, .	. 4	**	
Silver		• •	ND	0.048	1.1	н .	*	. •	•	+	
Sodium		н	NDUJ	7.3	110	•	•		*	π	•
SSH0168-09	(GTP5-3.0-082709)		Soil			Sатар	iled: 98/2	7/09 16:40		•	
Calcium		6010B TMP Dry	2700	1.6	57	mg/Kg dry	lx	50177	09/14/09 11:16	09/14/09 22:29	
iron		*	18000	0.48	10	н	• '	*	*	•	1
Magnesium		•	4400	0.69	57	**	b	ħ	r	M	1
Potassium			1600	17	170	₩	10	4	IJ	К	
Silver	•	•	ND	0.047	1.0	п	•	٠.	* n ,	Ħ	
Sodium			ND UJ	7.1	100		*	**	11	11	•

TestAmerica Spokane

Randee Decker, Project Manager

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200 Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP) TestAmerica Tacoma

				103071110							
Analyte		Method	Result S	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-10	(GTP5-7.0-082709)		Soil			Samp	pled: 08/	27/09 16:53			
Calcium		6010B TMP Dry	5900	3.1	119	mg/Kg dry	lx	50177	09/14/09 11:16	09/14/09 22;32	
Iron		• **	7800	0.96	21	n	•	*	•	**	
Magnesium			2800	1.4	110	*	۴			Ħ	
Potassium		H	1700	33	340	*	•	σ,	•		
Silver		W .	ND	0.093	2.1	*	•	•	•		
Sodium		41	ND U	J 14	210	•	٠		•	•	•
SSH0168-11	(GTP6-10-082809)		Soil	,		Samp	led: 08/2	28/09 10:36			
Calcium		6010B TMP Dry	2800	2.4	88	mg/Kg dry	lx	50177	09/14/09 11:16	09/14/09 22:36	
Iron		H	9500	0.73	16	11	٠.	×	h		
Magnesium	-		2709	1.1	88	47	•	N	u	-	
Potassium			1500	26	260	. *	•	u .	u	•	
Silver		p	ND	0.072	1,6	n		*	•		
Sodium		н	ND CL	T 11	160	*	•			•	*
SSH0168-12	(GTP6-2.5-082809)		Soil			Samp	led: 08/2	8/09 10:10			
Calcium		6010B TMP Dry	5400	1.6	60	mg/Kg dry	1x	50177	09/14/09 11:16	09/14/09 22:53	
Iron		• •	18000	0,50	11			•	n		
Magnesium		,	3500	0.72	60	"	**	•	*	*	
Potassium			1400	17	180	π	•		*	* ·	
Silver			ND	0.049	1.1	u .	•		*		
Sodium	·		ND LLT	7.4	110	h	•	₩ .	•	•	*
SSH0168-13	(GTP6-17-082809)		Soil	-		Samp	led: 08/2	8/09 11:11		•	
Calcium		6010B TMP Dry	2100	2.1	76	mg/Kg dry	lx	50177	09/14/09 11:16	09/14/09 22:57	•
Tron		•	12000 🔰	0.64	14	**	*		•	N	
Magnesium	•	N	3500 J	0.91	76	П	**	•		- и	*
Potessium	(*	1200	22	230	ii .	n	•		н	
Silver		*	ND	0.062	1.4	h *	* ·			n	

140

TestAmerica Spokane

Sodium

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirely.





SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Metals (ICP)

TestAmerica Tacoma

Analyte		Method	Result	G MIDL.	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-14	(GTP7-2.5-082809)			Soil		Sam	pled: 08/	28/09 12:50			
Calcient		6010B TMP Dry	25000	1.5	56	mg/Kg dry	lx	50182	09/14/09 11:44	09/14/09 23:29	
Iron		h	16000	0.47	10	* x	11	•	•		
Magnesium	•	•	6300	0.67	56		*			F	•
Potassium		ii.	1200	16	170	•			. *		
Silver		•	ND	0.046	1.0	u			ŧ	•	
Sodium	4		ND	UJ 69	100	· · · · · · · ·	- 11	*	*	•	•
como co se	(CTDE 10 0 002000)			Soil		E	Joda ne <i>r</i>	28/09 13:27			
SSH0168-15	(GTP7-10.0-082809)								0004001144		 _
Cakium -	•	6010B TMP Dry	2000	1.5	55	mg/Kg dry	1x	50182	09/14/09 11:44	09/14/09 23:57	
Iron			11000	0.46	10	·	-				
Magnesium		-	3100	0.67	55				•		
Potassium Silver		,	1200 ND	16 0.045	170 1,0			•		-	
Suver Sodium				KJ 49	100				. *	•	
Somm			ND	OCC OF	100					•	-
SSH0168-16	(GTP7-18-082809)		5	Seil		Samp	iled: 08/2	8/09 13:58			
Calcium		6010B TMP Dry	1300	1.6	58	mg/Kg dry	lx	50182	09/14/09 11:44	09/15/09 00:00	
lron .		Ħ	12000	0.48	11	•	•	В	**	н	
Magnesium	•		3500	0.69	58	*		*	*	₩ .	
Potassium		H	1400	17	170		•		٩,٠	ŧ	
Silver		a ·	ND	0.047	1.1	*			•	Ħ	
Sodium		. •	ND	UJ 7.2	110	*	. •		* *	*	*
SSH0168-17	(GTP2-2.5-082709)		. 8	Soil	-	Samp	led: 08/2	7/09 11:40			
Calcium		6010B TMP Dry	6400	1.8	65	mg/Kg dry	lx	50182	09/14/09 11:44	09/15/09 00:04	
iron		W	16000	0.54	12	•	*	•	•	•	
Magnesium	•		4300	0.78	65	•	**	U			
Potassium		• ,	1900	19	190	**	*		•	×	
Silver		¥	ND	0.053	1.2	*	#	*	. •	#	
Sodium		0	43	8,0	120	٠.		u		. 4	ىق

TestAmerica Spokane

The results in this report apply to the somples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

.

Report Created:

10/01/09 10:07

Metals (ICP)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SH0168-18	(GTP2-8-082709)		Sc	il		Samp	oled: 08/2	7/09 11:58		<u> </u>	
Calcium		6010B TMP Dry	2100	<i>1.7</i>	62	mg/Kg dry	1x	50182	09/14/09 11:44	09/15/09 00:08	
ron		н	16000	0.52	11		n	н	¥	ч	
/Jaguesium		*	. 8800	0.74	62	•	٠	ø	u	ti	
otassium		*	3200	18	190	•	•	71	u	tt	
ilver		•	ND	0.051	1.1	•	*	*	*	н	
odium			ND L	J 7.6	110		"	•	'n	a, '	*
SH0168-19	(GTP2-13-082709)		So	ii		Samp	led: 08/2	7/09 17:28			
alcium		6010B TMP Dry	1500	1.9	68	mg/Kg dry	Ìκ	50182	09/14/09 11:44	09/15/09 00:12	
on.		•	13000	0.57	12	•	•		n		
lago ésium		•	4600	0.82	68	•	h	n	u		
otassium	•	v	1600	20	200	. •	н		~	ц	
lver		• .	ND	0.056	1.2	•	Ħ	u	n	u	
ođium		•	ND (J 8.4	120		4	Ħ		u ,	•
SH0168-20	(GTP1-2.5-082709)		So	il		Samp	led: 08/2	7/09 09:20			
elcium		6010B TMP Dry	8800	1.7	62	mg/Kg dry	lx	50182	09/14/09 11:44	09/15/09 00:16	
012	•	•	13000	0.52	13		"	. *.	•	• •	
agnesium		*	2700	0.74	62	н	41	**			
ofassium		•	780	18	190	II .		w	*	e .	
lver		N	ND	0.051	1.1	•	•	•	. •	21	
odium		*	170	J 7.6	110	4 .		•	•	Đ	
SH0168-21	(GTP5-11-082809)		Soi	ii		Samp	led: 08/2	8/09 09:3 7			
deium		6010B TMP Dry	3200	1.6	60	mg/Kg dry	1x	50182	09/14/09 11:44	09/15/09 00:19	
on		•	9000	0.5I	11	•	*	*	π	н	
agnesium .		ii.	2900	0.73	60	#	. *	P	Ħ	•	
tassium		Pr. ,	660	18	180	٠.	u	. •	н	H	
lver		•	ND	0.049	1.1	*	Ð	н ,	•	•	
odium		•	ND L	7.5	110						

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP) TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-22	(TS-COMP-1)		Soil			Samp	oled: 08/2	27/09 18:10			
Calcium		6010B TMP Dry	1500	1.7	63	mg/Kg dry	lx	50182	09/14/09 11:44	09/15/09 00:23	
Iron		11	13000	0.53	12	* .	v	*	*	4	
Magnesium		•	5000	0.76	63	u	n	*	*		
Potassium		•	1700	18	190	*	*	•	•	•	
Silver			ND	0.052	1.2		a	. #	•		
Sodium		н	ND U	7.8	120	и	и	•	**	4	•
SSH0168-23	(TS-COMP-2)		Soil			Samp	led: 08/2	7/09 18:28			
Calcium		60)0B TMP Dry	1300	1.6	58	mg/Kg dry	lx	50182	09/14/09 11:44	09/15/09 00:27	
Iron		н	12000	0.48	. 10		В	U	•	*	
Magnesium		*	4500	0.69	58		n	*		•	
Potassium	,	п	1200	17	170			•	•	н	
Silver	,	M	NID	0.047	1.0	×	*	*	•	Ħ	
Sodium		. n	ND (XX)	7.1	100	# .	*	M	*	**	•
SSH0168-24	(TS-COMP-3)	·	Soil			Samp	led: 08/2	7/09 16:40			
Calcium		6010B TMP Dry	1100	1.6	57	mg/Kg dry	lx	50182	.09/14/09 11:44	09/15/09 00:44	
Iren		W	12000	0.48	10		•	11	•		
Magnesium		H	3900	0.68	57	ĸ	•		n		
Potessium		н	1200	17	170		•	'n	*		
Silver		Ħ	ND	0.047	1.0	**	-				
Sodium		n	CN DN	7.0	100	₩	•	. •		H	
SSH0168-25	(GTP4-6.0-082709)		Soil			Samp	led: 08/2	7/09 15:49			
Calcium		6010B TMP Dry	3600	1.6	58	mg/Kg dry	lπ	50182	09/14/09 11:44	09/15/09 00:47	
Iron	•	•	19000	0.48	11	. *	*	11	v	41	
Magnesium			3300	0.69	58	ŧ	•	*	•		
Potassium		н .	1500	17	170		•	*		•	
Silver	•	U	ND	0.047	1.1	n	•	٠.	•	•	
Sodium		₹ .	ND U.J	7.2	110	*				и-	*

TestAmerica Spokane

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

	·			Mercui TestAme							
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-01	(GTP1-10.5-082709)		Soil			Samp	led: 08/2	27/09 09:40			
Mercury		7471 A Dry	0.015 J	0.0081	0,026	mg/Kg dry	1x	49654	09/03/09 13:44	09/03/09 15:40	
SSH0168-02	(GTP1-13.5-082709)		Soil			Sатр	led: 08/2	7/09 10:10			,
Mercury		7471 Å Dry	0.013	0,0065	0.021	mg/Kg dry	1x	49654	09/03/09 13:44	09/03/09 16:02	
SSH0168-03	(GTP3-3.5-082709)	•	Soil			Samp	led: 08/2	7/09 14:15			
Mercury		7471 A Dry	0.018	0.0061	0.019	mg/Kg dry	1x	49654	09/03/09 13:44	09/03/09 16:06	_
SSH0168-04	(GTP3-5-082709)		Soil	Soil Sampled: 08/27/09 14:35							
Mercury		7471A Dry	0.11	0.0078	0.025	mg/Kg dry	lx	49654	09/03/09 13:44	09/03/09 16:10	
SSH0168-05	(GTP3-13.5-082709)		Soil			Samp	ied: 08/2	7/09 14:49			
Mercury		7471A Dry	ND	0.0081	0.026	mg/Kg dry	ix	49654	09/03/09 13:44	09/03/09 16:15	
SSH0168-06	(GTP4-2.5-082709)		Soil	·		Samp	led: 08/2	7/09 15:40			
Мегситу		7471A Dry	0.016	0.0063	0,020	mg/Kg dry	1x	49654	09/03/09 13:44	09/03/09 16:20	
SSH0168-07	(GTP4-8.0-082709)		Soil		Sampled: 08/27/09 15:59						
Мегситу		7471A Dry	0.012 T	0.0061	0,019	mg/Kg dry	1×	49654	09/03/09 13:44	09/03/09 16:32	-
SSH0168-09	(GTP5-3.0-082709)		Soil			Sampl	led: 08/2	7/09 16:40		-	
Mercury		7471 A Dry	0.025	0.0065	0,021	mg/Kg dry	lx	49654	. 09/03/09 13:44	09/03/09 16:36	
SSH0168-10	(GTP5-7.0-082709)		Soil			Sampl	led: 08/2	7/09 16:53			
Метситу		7471A Dry	ND	0.013	0.040	mg/Kg đry	ĺχ	49654	09/03/09 13:44	09/03/09 16:41	
SSH0168-11	(GTP6-10-082809)		Seil			Sampl	leď: 08/2	8/09 10:36			
Мегситу		7471A Dry	0,023	0.0096	0.030	mg/Kg dry	lx	49654	09/03/09 13:44	09/03/09 16:45	
SSH0168-12	(GTP6-2.5-082809)		Soil			Sampl	led: 08/2	8/09 10:10			
Mercury		7471A Dry	0.018	0.0066	0.021	mg/Kg dry	· lx	49654	09/03/09 13:44	09/03/09 16:49	•

TestA	merica	Spokane

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SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Mercury (CVAA)

TestAmerica Tacoma

Analyte		Method	70 . 14								
		ITZ CRIIÇG	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-13	(GTP6-17-082809)		Soil		•	Samp	led: 08/2	8/09 11:11	·		
Mercury		7471A Dry	0.017 T	0.0088	0,028	mg/Kg dry	lx	49654	09/03/09 13:44	09/03/09 16:53	
SSH0168-14	(GTP7-2.5-082809)		Soil	_		Samp	led: 08/2	8/09 12:50			
Mercury		7471A Dry	0.013	0.0063	0.020	mg/Kg dry	lx	49657	09/03/09 14:24	09/03/09 17:32	
SSH0168-15	(GTP7-10.0-082809)		Soil			Samp	led: 08/2	8/09 13:27			
Mercury		7471A Dry	0.017 T	0,0062	0,020	mg/Kg dry	.1×	49657	09/03/09 14:24	09/03/09 17:53	
SSH0168-16 .	(GTP7-18-082809)		Soil			Samp	led: 08/2	8/09 13:58			
Mercury		7471A Dry	0.015	0.0061	0,019	mg/Kg dry	lx	49657	09/03/09 14:24	09/03/09 17:57	
SSH0168-17	(GTP2-2.5-082709)		Soil			Samp	led: 08/2	7/09 11:40			
Mercury		7471A Dry	0.027	0.0077	0,024	mg/Kg dry	lx	49657	09/03/09 14;24	09/03/09 18:01	
SSH0168-18	(GTP2-8-082709)		Soil	_		Samp	led: 68/2	7/09 11:58			
Mercury		7471A Dry	0.024	0,0071	0.023	mg/Kg dry	lx	49657	09/03/09 14:24	09/03/09 18:06	· · ·
SSH0168-19	(GTP2-13-082709)		Soil			Samp	led: 08/2	7/09 17:28			
Метсшту		7471 A Dry	ND	0.0077	0.024	mg/Kg dry	jĸ '	49657	09/03/09 14:24	09/03/09 18:10	
SSH0168-20	(GTP1-2.5-082709)		Seil			Samp	led: 08/2	7/09 09:20			
Mercury		7471A Dry	0.0083 T	0.0069	0.022	mg/Kg dry	lx	49657	09/03/09 14:24	09/03/09 18:25	
SSH0168-21 ((GTP5-11-082809)		Soil			Samp	led; 08/2	8/09 09:37			
Mercury		7471 A Dry	0,014 🕤	0.0068 .	0.022	mg/Kg dry	1x	49657	09/03/09 14:24	09/03/09 18:29	
SSH0168-22 ((TS-COMP-1)		Soil			Sampl	led: 08/2	7/09 18:10			
Мегситу		7471 A Dry	ND	0.0071	0,023	mg/Kg dry	1x	49657	09/03/09 14:24	09/03/09 18:33	
SSH0168-23 ((TS-COMP-2)		Soil			Sampl	led: 08/2	7/09 18:28			· · · / · · ·
Mercury		7471A Dry	ND	0.0063	0,020	mg/Kg dry	1x	49657	09/03/09 14:24	09/03/09 18;38	

TestAmerica	a Spokane
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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Manager: **Avery Landing**

Project Number: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Mercury (CVAA)

	TestAmerica Tacoma										
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-24	(TS-COMP-3)		Soi	l •		Samp	led: 08/2	7/09 16:40			
Метситу		7471A Dry	0.016	0.0067	0.021	mg/Kg dry	lx	49657	09/03/09 14:24	09/03/09 18:42	
SSH0168-25	(GTP4-6.0-082709)		Soi	3		Samp	led: 08/2	7/09 15:49			
Mercury		7471A Dry	0,022	0.0067	0.021	mg/Kg dry	lx	49657	09/03/09 14:24	09/03/09 18:46	

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created;

10/01/09 10:07

Metals (ICP/MS)
Test America Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-12	(GTP6-2.5-082809)		Soil		10						
AJuminum		6020 TMP Dry	11000	0.33	33	та/Ка фу	10x	501 7 7	09/14/09 11:16	09/14/09 16;32	707
rsenic		a	17	0.00085	0.22		Þ		ŧ		
Lutimony			0.89	0.0072	0.22	p	*			u	
Barium		4 .	78	0.0016	0.22		•	•	•	. •	
Beryllium		•	0.52	0.00075	0.22		ч	•	. •	*	
Ianganese		*	500	0.017	0.54		a			•	
Cedmium		11 .	0.34	0.00051	0.22	• .	•	•	H	#	
ickel			18	0.0040	. 0.22			•	и	*	
bremium		•	9.4	0.0043	0,22			н	#		
elenium		H	0.11	0.0020	0,54			u		•	
obalt		*	ņ	0.00059	0,22		•			•	
Tralliom		и	سبدو	0.0043	0.43	u ·	•	н .	11	•	
оррег		u	26	0.0035	0,22	4	•	n	4	т.	F
anadium		n	18	0.0029	0.22	· ·		n	*	#	
ead		•	11	0.0011	0.22	. 4	•	*		1	
line		•	28	0.016	0,76	•	Ħ			•	
SH0168-13	(GTP6-17-082809)		Soil	•		Samp	led: 08/2	8/09 11:11		•	
luminum	* <u></u>	6020 TMP Dry	7100	0.41	41	mg/Kg dry	10x	50177	09/14/09 I1:16	09/14/09 16:53	B
rsenic			8.3	0.001 j	0.28			n	•	•	100
utimony			1.8	0.0091	0,28					, "	
arium			54	0.0021	0.28		•	•			
eryllium		* .	0.30	0.00095	0.28			•	н	**	
anganese			200	0.022	0,69	•				ч -	
admium	. •	p	0.29	0.00065	0.28	•				*	
ickel		1r	12 🍸	0.0051	0.28	•	٠ •	*	•	u ·	
hromjum	•		8.8	0.0055	0,28	· • • • • • • • • • • • • • • • • • • •			Ħ		
lenium		•	0.10 丁	0.0026	0,69	*			н	ч	
balt -		•	6,2	0.00075	0.28			, p	•	*	
allium		*	Das	0.0055	0.55	人 "			7	•	
pper		Ir	50 J	0.0044	0.28		*	•	7	•	
anadium			16	0.0037	0.28					n	
ead .		Ħ	. 34	0.0014	0,28	н	•	•	*	•	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd, Suite 200

Project Name:

Avery Landing

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Test	\merica	Lacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SH0168-14	(GTP7-2.5-082809)		Soi			Samp	led: 08/2	8/09 12:50			
Uminum		6020 TMP Dry	6800	0.30	30	mg/Kg dry	10 _X	50182	09/14/09 11:44	09/14/09 17;36	700
rsenic ,		•	17	0.00079	0,20	•	•	Ħ	. •	. "	. —
ıntimony		T	0.97	0.0067	0.20	n	-	b	•	•	
arium .	•	•	47	0.00/5	0.20	*			н .	•	
eryllium		u.	0.36	0.00070	0.20	•	ŧ	*	*	•	
angunese		*	520	0.016	0.51	. •	•		•	41	
admium		*	0.13 T	0.00048	0.20		•	b	и		
ckel	•	U	17	0.0038	0,20			•	B	•	
romium			6.2	0.0041	0.20	•	Þ	•	н		
denium		N	0.068	0.0019	0.51		•	a	N.	•	
obałt		e:	11	0.00055	0.20	•	*	D	н	•	
hallium '			0.14-	0.0041	0,41	u·		ır	н	•	
opper		•	23	0,0032	0.20	-	*	41			-
enadiom		п	10	0.0027	0.20	b	•		N	n	
ad		R	9.3	0.0010	0.20	a r	•		ħ	n *	
inc		#	26	0.015	0.71	*			11		
SH0168-15	(GTP7-10.0-082809)		Soil			Samp	led: 08/2	8/09 13:27	·		
व्यवस्था		6020 TMP Dry	5500	0.30	30	mg/Kg dry	10x	50182	09/14/09 11:44	09/14/09 18:41	W
senic		π	6,8	0.00079	0,20		•	#	U		vo
timony		ii,	0,36	0.0067	0,20	*	×		n		
rium			34	0.0015	0,20	. •	н	U	=	• #	
eryNiom		₩	0.21	0.00070	0.20	*	41	π	h	*	
видалезе		•	270	0.016	0.50	*	*	•	U		
edmiuer		•	9,17 🍑	0.00047	0,20	н	-		"	ĸ	
ckel		*	9,3	0.0037	0,20	n		•	•	*	
romium			7.3	0.0040	0,20	•	#1	**	,	N	
lenium		F	0.055 J	0.0019	0.50	•	Ħ	*	*	Ħ	
balt		.	6,1	0.00054	0.20	1)		•	#	•	
allium			سسبول السي	0.0040	0.40 (以 "	-		*	.	
pper			20	0.0032	020	•	•		e		-
oedium		*	12	0.0027	0.20				*		
							-			_	
ad ·		u	7.4	0.0010	0,20						

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Not	8
SSH0168-16	(GTP7-18-082809)		Soil			Samp	led: 08/2	8/09 13:58			10	/
Aluminum		6020 TMP Dry	6200	0.32	32	mg/Kg dry	10x	50182	09/14/09 11:44	09/14/09 18:4B		
Arsenic		u	7.8	0.00082	0,21			*	· · · · · · · · · · · · · · · · · · ·		Z	
Lutimony		•	0.49	0.0069	0.21	k			'n	ŋ		-
Barium	•	4	42	0.00/6	0.21	*	*		*	9		
teryllium			0.27	0.00073	0.21	*	•	•	н	4		
langanese		• '	200	0.017	- 0.53	•	*	M				
admium:		4	0.11 🎵	0.00049	0.21	•	•	u		μ		
ickel		••	9.9	0.0039	0.21		•	0	-		•	
hromium		b ₁	7.6	0.0042	0,21	•			п	•		
elenium			0.073	0.0020	0.53	*	ŧ	•	- 4	•		
obalt		•	7.0	0.00057	0,21	n	*	•	4			
hallium		- N	0.18	0.0042	0,42	は *	•	•		#		نسه
opper		μ	21	0.0034	0.21	*		•	u	*		
anadium		11	16	0.0028	0,21	*		•	. 0	U	,	
ead	•	4	7.3	0.0011	0.21	П	• .	•	*	π	•	
inc	•	н	29	0.016	0,74		•	. h				
SH0168-17	(GTP2-2.5-082709)		Soil			Samp	led: 08/2	7/09 11:40			/-	
lymjoum		6020 TMP Dry	14000	0.35	35	mg/Kg dry	10x	50182	09/14/09 11:44	09/14/09 18:55	(DE)	<u>-</u>
rsenje		•	18	0.00092	0,24				н	H	100	
timony		h	2.1	0.0078	0,24	11	•	Ħ	h	þ	~	
ripn		. •	240	0.0018	0.24	. 4	• .	n	*			_
eryllium		•	1.0	0.00081	0.24		*	ur .	н .	н,		
anganesc			370	0.019	0,59		•	H	4	•	•	
admium	,	•	0.94	0.00056	0,24	n .	•	n	•	н		
ickel		•	17	0.0044	0,24		•	•	19	и		
in remigr o		π	13	0.0047	0.24	#	Ħ	n ·		н		
J e nium		•	0.36 ブ	0.0022	0.59		• .	n	-	н		
balt		Ħ	7,5	0.00064	0.24		•	U	•	•		
allium		⋪.	0.28	0.0047	0.47	人。	н			lt .		تر
pper			50	0.0038	0.24	*	• .		•	. 41		
nadium		·	24	0.0032	0,24	*	•					
ad		•	140	0.0012	0,24	h	•		•	k		,
пс		н	180	0.018	0.83	#	Þ		В	h		

TestAmerica Spokane

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11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Metals ((ICP/MS)
----------	----------

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes /
-	(CITTA 6 AAA TA	MEMOR			HAL				richaron	- Andrew	Nucles
SH0168-18	(GTP2-8-082709)		Soil .				iea: 08/4	7/09 11:58			
Cluminum		6020 TMP Dry	15000	0.34		mg/Kg dry	10x	50182	09/14/09 11:44	09/14/09 19:02	
\rsenic	•	•	32	0.00088	0,22	P	1)	. *	*	. •	/ '
Antimony	•	4	1.1	0.0074	0,22	Ħ	Ħ	•	н	•	!
Barium		н .	100	0.0017	0.22	,	•	n ·	ď	ь .	
ery l ium		п	0.61	0.00078	0.22	•		•	•	•	
Innganese		•	490	0.018	0,56	•	*	. •	•	•	
Cadonium		•	0.30	0.00053	0.22	•	*	H		. " .	
Vickel .		H	15	0.0042	0.22	•	"	*	*	b	
Chromium		₩ .	16	0.0045	0.22	9	u	et		¥	
elenium		Ħ	0.094 🍞	0.0021	0,56	н	н '	•	*		
Cobalt			8.2	0.00061	0,22	u		•	и		
hallium —		•		0.0045	0.45	<i>L</i> "	•	W ·	и	•	_
opper		*	19	0.0036	0.22	a.	•	•	•	•	
anadium		*	24	0.0030	0.22	*		**		• .	
.ead		*	22	0.0011	0,22	U		*		li	
inc .			30	0.017	0,79	Ħ	•		Ħ	•	
SH0168-19	(GTP2-13-082709)		Seil	Soil Sampled: 08/27/09 17:28							~
lumioum		6020 TMP Dry	9400	0.37	37	mg/Kg dry	10x	50182	09/14/09 11:44	09/14/09 19:09	100
rsenic		u	21	0.00097	0.25	#		•	H	•	10
ntimony	•	*	0.44	0.0082	0,25	•			я	• '	
larium		*	61	0.0019	0.25	•		н		н	
Beryllium		π	0.37	0.00085	0.25	*		M	•		
langanese		**	370	0.020	0,62		•			•	
Ladmium			0.18	0.00058	0.25	•		п			
ickel			11	0,0046	0,25			п	ж		
hromium		11	11	0.0050	0,25		D.	11			
elenium		•	0.14 كم	0.0023	0,62	n		*	*	W	
obalt		•	6.5	0.00067	0.25		*		ч	н	
ballium		H	0.15	0.0050	0,50 L	<i>l</i> "	*	н	•		
opper		•	19	0,0040	0,25	"			•	4)	_
anedium			19	0.0033	0,25	•		, ,			
ead			7,2	0.0012	0,25	R		н	H	м .	•

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP/MS)

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SH0168-20	(GTP1-2.5-082709)		Soil			Samp	led; 08/2	7/09 09:20			
Aleminum		6020 TMP Dry	8200	0.34	34 :	mg/Kg dry	10x	50182	09/14/09 11:44	09/14/09 19:16	Mex
Arsenic		E .	8.0	0.00088	0.22	*	•	h	þ	Ħ	500
Antimony		٠	13	0.0074	0.22	*	*		e	n	,
Barium		•	1100	0.0017	0.22	*1	*	u	*	•	
Berylliom			1.1	0.00078	0.22	•	"	ų	•	n	
langanese		•	240	0.018	0.56	н	*	k	•	u	
admium			0.42	0.00053	0.22	•	*	*			
iickel			25	0.0042	0,22	•	n	n	41	*	
hromium		U	8.6	0.0045	0.22	•	Ħ		41	*	
elenium		*	0.40 J	0.0021	0.56	*				. π	
obalt	•	u	7.6	0.00061	0,22	•	n	H	•	•	
muillad	•	*	_0.12-	0.0045	0.45 L	L "		D	- п	•	٠
оррег		•	160	0.0036	0.22		•	*	•		
enedium			37	0.0030	0.22	*	n	7	* *	*	
ead .		н	410	0.0011	0.22	•	•	•	•	•	
inc		*	70	0.017	0.79	•	•	н	н	· .	
SH0168-21	(GTP5-11-082809)		Soil			Samp	led: 08/2	B/09 09:37		•	~
uminum		6020 TMP Dry	5100	0,33	33 n	ng/Kg dry	10x	501B2	09/14/09 11:44	09/14/09 19:45	10
rsenic	•	n	3.7	0,00086	0.22		h	11	n	П	0
ntimony		H	1.9	0.0073	0,22		*		10		
erium			27	0.0016	0,22	n			11	*	•
eryllium		•	0.25	0,00076	0.22	• .			*	#	
anganese		•	49	0.018	0.55	.	ŧ	π	•		
edmium		•	0.19	0.00052	0.22	.н		•			
ckel	- ,	•	16	0.0041	0,22	n		н	'n		
t rominto		. •	6,2	0.0044	0.22	-		ь	n	•	
lenium		•	0.11 J	0.0021	0.55	M	*		n	Ħ	
		*	4.4	0.00059	0,22	b	*	Ħ	п	n	۔
		_	Q.13-	0.0044	0.44	ξ • .				н	ِ في
balt	•	•				-					_
obalt sallium	•		70	0.0035	0.22	h	as .		" .	m.	
obalt zaVium opper		# 	•	0.0035 0.0030	0.22		. <u>#</u>	.h	<u>"</u>	#- 	
obalt ballium opper anadium			70			ti 	. <u>#</u> <u>.</u>	. <u>k</u>	# #	я- 	·

TestAmerica Spokene

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-22	(TS-COMP-1)		Soil			Samp	oled: 08/2	7/09 18:10			6
Aluminum		6020 TMP Dry	9000	0.35	35	mg/Kg dry	10x	50182	09/14/09 11:44	09/14/09 19:52	1 LX
Arsenic			9.0	0.00090	0,23			•	•		10
ntimony		W	08,0	0.0076	0.23	•	•		*	•	
Barium		W	90	0.0017	0,23	n	b	h	u		
eryllium		н	0,35	0.00080	0.23	*	•	n	В		
ianganese		• .	170	0.018	0.58	*	•	•.	11	•	
admium.		• .	0,16	0.00054	0.23		•		•	•	
ickeľ		•	13	0.0043	0.23	•	U	N	•	•	
hromium		н -	9.9	0.0046	0.23	•	•		н		
elenium		11	0.16 꿏	0.0022	0.58		•	* #	•	#	
Cobalt			8.0	0.00062	0.23	п		u	.	. *	
ballium		•	0.20-	0.0046	0.46 ₺	L "	•	4	•		
opper		*	25	0.0037	0.23	•		U	н	*	_
anadium			23 .	0.0031	0.23	•		*	. •	•	-
end		•	12	0.0012	0.23	•		T	#	•	
inc		U	36	0.017	0,81	**			#1	**	
		1		•							
SH0168-23	(TS-COMP-2)		Soil			Samp	led: 08/2	7/09 18:28			-
luminum .		6020 TMP Dry	9200	0.31	31	mg/Kg dry	10x	50182	09/14/09 11:44	09/14/09 19:59	11/2
rsenic		×	7.8	0.00082	0.21	H	•	u	н	*	100
ntimony			1.4	0.0069	0,21	n .	*	н	h	*	
arium		7	90	0.0016	0.21	**	•	W	n	•	
eryllium			0.38	0.00072	0,2]		41	•	. *	٠,	
langanese	•		160	0.017	0,52		•		•	W	
admium		u	0.14	0.00049	0.21	н	•	•	*	Ħ	•
ickel		• II	13	0.0039	0,21	•	• .	in	•	-	•
hromium		•	9.8	0.0042	0.21	.#	+	*	•	h	•
lenium		ri .	0.14	0.0020	0.52	н	*	n	•	н	•
balt			7.8	0.00057	0.21	*	n	ai .	B	*	
allium		a	_118	0.0042	0.42 L	L "		•	•	» ,	
pper		••	45	0.0034	0,21		p.	u u	•		-
madium			21	0.0028	0.21	ħ					
ead ·			19	0.0010	0,21	. *	•				_

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager

Page 53 of 220



THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Ansiyzed	Notes
SSH0168-24	(TS-COMP-3)		Soil			Samp	led: 08/2	7/09 16:40			KQ
Aluminum		6020 TMP Dry	6500	0.31	31 n	ng/Kg dry	10x	50182	09/14/09 11:44	09/14/09 20:06	
Arsenic			15	0.00081	0.21	11	*	*		*	
Antimony		•	1.2	0.0068	0,21	н	•	u	•	н	
Barium		•	40	0.0016	0.21	**	p	н	н	W	
Beryllium		7	0,29	0,00071	0.21	*		n	*		
Manganese		н .	176	0.017	0.52	н	. •	•	N		
Cadmium		•	0.13	0.00049	0.21	n	•		#	*	
Nickel		•	12	0,0038	0,21			"	4	*	
Chromium			7.4	0.0041	0.21	*	h	μ	. 47	Ü	
Selenium		•	0.13	0.0019	0.52	u	47		(r	#	
Cobalt		н -	7.9	0.00056	0.21	10.1	*		н	•	
Thallium .		e e	24	0.0041	0.41	ل "	н	×	#	*	
Copper			23	0.0033	0.21	T		н	. "	*	_
/anadium		ь	17	0.0028	0.21	•		U	e e	#	
Lead		*	15	0.0010	0.21	u		v	•	₩ :	
Zinc		•	23	0.016	0,72 '			н	ń	#	
SSH0168-25	(GTP4-6.0-082709)		Soil			Samp	led: 08/2	7/09 15:49	•		
Aluminum		6020 TMP Dry	14000	0.32	32 m	ng/Kg dry	10x	50182	09/14/09 11:44	09/14/09 20:14	11/2
Arsenic	-	*	28	0.00082	0.21	•			R	π.	
Antimony			1.6	0.0069	0.21	#	•	u	н .	•	-
Barium		H 1	130	0.0016	0.21	•		н	•		
Beryllium		•	0.81	0.00073	0,21	*	u	ŋ	7	W	
Manganese			500	0.037	0.53	11	•	*	π		•
Cadmium			0.61	0.00049	0.21	•	**	٠,	п	•	
Nicke l		"	25	0.0039	0.21	*		*	•	•	
Chromium		•	14	0.0042	0.21	, и	n.	•	•	•	
Selenium		. •	0.19 J	0.0020	0,53	¥		*	•	h	
Cobalt		•	11	0.00057	0.21				7		
kalligm			_0,49	0,0042	0.42	L ·		47		•	_
Copper		*	63	0.0034	0.21			**	*	N	
/anadium	•	u .	29	0.0028	0.21		•	11	1		
Lead			55	0.0011	0.21	•		•	h	li I	
Zine			90	0.016	0.74						

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name; Project Manager: Avery Landing

Project Number:

073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP/MS)

TestAmerica Tacoma

Analyte		Method	Result 💪	2mdl*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-01	(GTP1-10.5-082709)		Soil			Samp	led: 08/2	7/ 09 09:40			13
Aluminum		6020 TMP Dry	10000 J	0.39	39 m	g/Kg dry	x01	50177	09/14/09 11:16	09/14/09 14:41	(V)
rsenic		v	5.7	0.0010	0.26	•	n		u	•	
ntimony		В	0.45	0.0087	0.26		-	fe .		*	
ariom			76	0.0020	0.26		•	"		н	-
eryllium			0,37	0.00091	0,26	•	*	n	•		_
(anganese			130	0.021	0,66			•	19	*	
admium			9.15	0.00062	0,26 L L				•	ti	لنسي
ickel		,	13	0.0049	0,26	•	n	ú		e	
hromium		н	11	0.0053	0.26	4	n	*	a a	•	
elenium		19	0.19 J	0.8025	0.66	11	u	•	•	•	
obalt		•	6.8 J	0.00071	0.26	4		*	•	•	-
hallium		•	2.16	0.0053	0.53 (•	n			•	لخد
opper		н	18	0.0042	0.26	U	ŋ				
anad izon			26	0.0036	0.26		Ü	•			
ad ·		. *	8.4	0.0013	0,26	'n	tr .	**	п	•	
inc		. #	34 🎜	0.020	0.92		•		в	•	
SH0168-02	(GTP1-13.5-082709)		Soil			Samp	led: 08/2	7/09 1 0:1 0			Ó
luminum	<u> </u>	6020 TMP Dry	6800	0.3j	31 mg	/Kg dry	10x	. 50177	09/14/09 11:16	09/14/09 15:36	100
rsenic		н	11	0.00081	0.21	w	*		•	41	10
ntimony	•	н .	1.3	0.0068	0.21				н	71	
orium		*	64	0.0015	0.21	b		п		•	
eryllium		ь	0.29	0.0007]	0.21	77	н	ь		•	
anganese			140	0.017	0,52		b)	4			
ıdmium	•	*	0.45	0.00049	0.21		ų.	ŧ		*	
ickel	•	υ	12	0.0038	0,21	н .	•	e.		n	
hromium			7.6	0.0041	0.21	H		и	•		
lenjum		•	0.20	0.0019	0.52	ь		н		11	
balt .		•	8.9	0.00056	0,21	н	н			•	
allium		4	221	0.0041	0.41 1	н	ter ·	ч		n	Ā.
ърег	•		31	0.0033	0.21	h	an ·	11	в		
nget Madium			18	0.0028	0,21	,	•	17	•	н	
ag mantairi											
			16	0.0010	0.21		-	-		,,	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chair of austody document. This analytical report must be reproduced in its entirety

Randee Decker, Project Manager

Page 43 of 220



SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number. Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-03	(GTP3-3.5-082709)		Soil			Samp	led: 08/2	7/09 14:15			6
Aluminum		6020 TMP Dry	13000	0.32	32	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 15:42	
Arsenic			8.5	0.00082	0.21	D.	7	н	•	IJ	10/
Antimony		*	0.85	0.0070	0.21		"	u	•	*	4
)arjum		•	88	0.0016	0.21	•	*	*	,	•	
eryllium			0.82	0.00073	0,21	•	\$ I		•	n .	
Ianganese	÷	•	520	0.017	0.53	4			•		
edmium		n ·	0.27	0.00050	0.21	R.	٠		•	п	_
ickel		,	13	0.0039	0.21	*	н	н	П	*	
hromium		W	12	0.0042	0.21		п	•	•		
elenium			0.10 🎵	0.0020	0.53		• .		-	. "	•
obalt		a	8.7	0.00057	D,21	*	•	•	•	•	
hallium .		п	0.23	0.0042	0.42 L	ζ.	П		*		ار •
оррег	•	41	. 23	0.0034	0.21		*	•	•		
anađium		н .	19	0.0028	0.21	• .	P	• .		•	
ead			20	0.0011	0,21	*	•	•	•	#	
ine		h	72	0.016	0.74	•	•	•		N	
SH0168-04	(GTP3-5-082709)		Soil			Samp	led: 08/2	7/09 14:35			
luminum		6020 TMP Dry	9200	0,39	39 1	ng/Kg dry	10x	50177	09/14/09 11:16	09/14/09 15:48	/ ill
rsenic		*	8.9	0.0010	0,26	в 4	•	•	•		
ntimony		er e	1.1	0,0085	0,26	•		•	#	н	بر ''
riunt			180	0.0019	0,26			π	• .	n .	
eryllium		ķ	0.51	0.00089	0.26	n		•			
anganese			400	0.021	0,64	• 1	#			n	•
admium		•	0.28	0.00060	0.26	•		41	*	41	_
ickel	•	vi	13	0.0048	0.26	•	T		*		r
hromium	•		10	0.0051	0.26	'n.		-			
Jenium		н	0.16 3	0.0024	0,64	h	н	h	•	π .	
balt		* e ·	5.9	0.00070	0,26	H .	*		•	₩	
allium	•	Й	0.20	0.005/	0.51 b	[•	п	H	-	н	تر
opper		in .	31	0.0041	0.26	*	н	b		· #	
enadium		н	19	0.0035	0.26	٠					
rad			44	0.0013	0.26		u		•	H	
ne		π .	73	0.019	0.90				* .	×	

TestAmerica Spokane

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tandel des Randee Decker, Project Manager





THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP/MS)

TestAmerica Tacoma

Analyte	· · · · · · · · · · · · · · · · · · ·	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-05	(GTP3-13.5-082709)		Soil			Samp	oled: 08/2	7/09 14:49			ø
Aluminum	• •	6020 TMP Dry	16000	0,37	37	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 15:54	192
Arsenic		₹	45	0.00097	0.25	н	*	*	u u	•	~ U
Antimony		4	0.87	0.0082	0.25	U	4	•	n	. •	
Berium		4	110	0.0019	0,25	¥	μ	H	•	٠,	
Beryllium		н	0.75	0.00085	0,25	•	•		•	•	
Manganese		4	560	0.020	0,62		4			*	
Cadmium		•	0.32	0.00058	0,25	•	•	*	м	*	
lickel	•		19	0.0046	0.25	n	b	4	. "		
Aromium		H .	18	0.0049	0.25	*	*		н	U	
elenium		*	0.15 J	0.0023	0.62	•	•		*		
obalt		Ħ	12	0.00067	0.25		•		•	# '	
haliium		u	_0.25	0.0049	0.49	L "		H	. "	,	_
opper .		41	29	0.0040	0.25	n	*		u u	**	
anadium			34	0.0033	0.25	n	U	•	"	•	
ead			11	0.0012	0,25	31			16	*	
ine	•	н,	40	0.019	0,87		•			,	
						_				4	
SH0168-06	(GTP4-2.5-082709)		Soil				led: 08/2	7/09 15:40	•		- 4
luminum		6020 TMP Dry	9100	0.30	30	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:00	10
senic		Ħ	20	0.00078	0.20	н	•	n	•	Ħ	(0-
itimony	•	*	1.3	0.0066	0.20	H	•	*	*	n .	
rium		•	87	0.0015	0.20	• ,	٠			. **	
ryllium		н ,	0.45	0.00069	0.20		•	•		п	
anganese		•	320	0.016	0,50	*	٠	•		•	
dacium			0,34	0.00047	0.20	•	•	h	b	71	
ckel		*	14	0.0037	0.20	•		•	В	•	
aromium			11	0.0040	0.20	P		•	•	W	
lenjum	•	•	0.16 J	0.0019	0.50	-	۳		*	#	
balt		•	9.2	0.00054	0,20		•	П		•	
allium		•	_119	9.0040	0.40	l "	*	0	p		لمسد
ррег		*	49	0.0032	0,20		*	•	*	. "	
nedium .		*	18	0.0027	0.20			. •	•	•	
ead		h ·	53	0.0010	0,20		н			₩	
ne			66	0.015	0.70	_	_				

TestAmerica Spokane

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Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name: Project Number: **Avery Landing**

Project Manager:

073-93312-03 Doug Morell

Report Created;

10/01/09 10:07

Metals (ICP/MS)

1 es	Ameno	2] 8	scoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-07	(GTP4-8.0-082709)		Soil			Samp	led: 08/2	7/09 15:59			A
Aluminum		6020 TMP Dry	6000	0.32	32 n	ng/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:07	100
Arsenic		•	9.4	0.00084	0.22	*	•	•	H	Ħ	Ū
atimony		•	0.62	0.0071	0.22	*		*			
arium		*	39	0.0016	0.22	#	•		T		
eryllium		h	_0.20	0,00074	0.22		•	n	**	u	مبري مبري
langanese		•	260	0.017	0.54	4	*		н	•	
admium		b	_D.15	0.00051	0.22 U	L *	9	4	el .		
ickel		¥	11	0.0040	0.22	H	•	H		*	
hromium		4	7,2	0.0043	0.22	n	•	*	и	n	
elenium		в	0.063 T	0.0020	0.54	•		•	11	•	
obalt		Ħ	5.1	0.00058	0.22		*	н	47		
hallium			_11 12 _	0.0043	0.43 🔱	, h	u	*	•	t t	_
opper	-	н	27	0.0034	0.22	P		•		U	·
aoadium		7	13	0.0029	0,22	*	ķ	P		0	
ead		Ŋ	21	0.0011	0.22	•	*	ŧ	#	*	
inc		P	57	0.016	0.75	٠	n	*	u	ń	
SH0168-09	(GTP5-3.0-082709)		Soil		_	Samp	led: 08/2	7/09 16:40			
luminum .		6020 TMP Dry	10000	0.31	31 m	g/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:13	100
rsenie		n	15	0.00081	0.21		•	u	77	•	,
ntimeny		II.	1.5	0.0069	0.21	11	•	ĸ	м	17	,
erium		п	63	0.0016	0,21		•	•	• .	*	
eryllium		•	0.55	0.00072	0.21			•	h	4	
anganese		p	540	0.017	0.52	•	• '		υ΄		
admium			0.31	0.00049	0,21	n .	•		•		
ickel	•	•	17	0.0039	0.21	•		*	u	¥	•
hromium		11	8.3	0.0042	0.21	h	•	*		•1	
leniam		*	0.13 丁	0.0020	0.52	•	r	"	•	•	
balt		• ,	12	0.00056	0,21	H	•	H	U		
allium		P	9.17	0.0042	0.42 El	. 11	•	. #		P	
pper	•	u	22	0.0033	0.21				н	u	
muibane			16	0.0028	0.21	•		. 1		, • , .	
						_					•
ead		•	9,3	0.0010	0.21	,	•		•	*	1

TestAmerica Spokane

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tardender Randee Decker, Project Manager





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Manager: **Avery Landing**

Project Number:

073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Metals (ICP/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-10	(GTP5-7.0-082709)	,	Soil			Samp	oled: 08/2	7/09 16:53			e/
Aluminum	-	6020 TMP Dry	6300	0.62	62	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:19	10
Arsenic		•	3.6	0.0016	0.42	н	•	n	. "		(V U
ntimony		н,		0.014	0.42	፟	٠	₩	41	н	اد
larium		**	150	0.0031	0.42	•	n	Ħ		۳.	
Seryllium		•	021	0.0014	0,42	ル "	*		•	п .	أر
1anganese		п	330	0.033	1,0	**	•		•	M	
admium		*	_0.22	0.00098	0.42	· 人		4	•	H	فر ٠
ickel			6,7	0.0077	0.42	R	u	*	•	ш	
hromium			5,3	0.0083	0.42	II.	*.	•	•	n	
elenium	,	*	0.063	0.0039	1.0	11	•	π	*	श	
obalt			4.0	0.0011	0.42	•	H	π ,	и .	#	
hallium			212-	0.0083	0.83	Ll "	11	. 4	н	Ħ	ند
opper			16	0.0066	0.42		•	₹	n	•	-
anadium			11	0.0056	0.42	र्ग	•	•		7	نو ب
ead			7.4	0.0021	0.42			п	-	n	
ine			49	0.03)	1.5				•		
CH0146-11	/CTP6_10_092900\		Soil			Same	Jed: 08/2	8/09 10:36			
SH0168-11	(GTP6-10-082809)		Soil	··· -				8/09 10:36			
Juminum	(GTP6-10-082809)	6020 TMP Dry	6100	0.48		mg/Kg đry	10x	50177	09/14/09 11:16	09/14/09 16:25	
luminum rsenic	(GTP6-10-082809)	6020 TMP Dry	6100 4.7	0.0012	0.32			50177	09/14/09 11:16	09/14/09 16:25	al
luminum rsenic utimony	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64	0.0012 0.011	0.32 0.32	mg/Kg đry	10x	50177	09/14/09 11:16	09/14/09 16:25	al
luminum rsenic ntimony arium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89	0.0012 0.011 0.0024	0.32 0.32 0.32	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	A.
luminum rsepic utimony arium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64	0.0012 0.011 0.0024 0.0011	0.32 0.32 0.32 0.32	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	
Iuminum rsenic ntimony arium eryllium langanese	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89 _0.26 200	0.00]2 0.0]] 0.0024 0.00]] 0.026	0.32 0.32 0.32 0.32 0.80	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	
luminum rsenic utimony arium eryllium (anganese admium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 9.64 89 9.20 200	0.0012 0.011 0.0024 0.0011 0.026 0.00075	0.32 0.32 0.32 0.32 0.80 0.32	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	ال بر بد
luminum rsenic utimony arium eryllium (anganese admium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 9.64 89 9.20 200 0.20	0.0012 0.011 0.0024 0.0011 0.026 0.00075 0.0059	0.32 0.32 0.32 0.32 0.80 0.32	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	
Iuminum reenic atimony arium eryllium (anganese admium ickel bromium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89 0.20 200 0.20 7.7 6.4	0.0012 0.011 0.0024 0.0011 0.026 0.00075 0.0059	0.32 0.32 0.32 0.32 0.80 0.32 0.32	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	-
luminum rsenic atimony arium eryllian anganese admium ickel hromium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89 0.20 0.20 7.7 6.4	0.0012 0.011 0.0024 0.0011 0.026 0.00075 0.0059 0.0064	0.32 0.32 0.32 0.32 0.80 0.32 0.32 0.32	mg/Kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	
luminum rsenic mtimony nrium eryllium ianganese admium ickel hromium obalt	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89 0.20 0.20 7.7 6.4 0.023	0.0012 0.011 0.0024 0.0011 0.026 0.00075 0.0059 0.0064 - 0.0030 0.00086	0.32 0.32 0.32 0.32 0.80 0.32 0.32 0.32 0.80	mg/kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	
Juminum reenic mimony arium eryllium langanese admium ickel bromium elenium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89 0.20 0.20 7.7 6.4	0.0012 0.011 0.0024 0.0011 0.026 0.00075 0.0059 0.0064 0.0038 0.00086	0.32 0.32 0.32 0.80 0.32 0.32 0.32 0.80 0.32 0.80	mg/kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	
luminum rsenic ntimony urium eryllium ianganese admium ickel hromium slenium obalt nalium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89 0.20 0.20 7.7 6.4 0.023	0.0012 0.011 0.0024 0.0011 0.026 0.00075 0.0059 0.0064 0.0038 0.0086 0.0064	0.32 0.32 0.32 0.80 0.32 0.32 0.32 0.32 0.80 0.32 0.64 (0.32	mg/kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	,
Iuminum reenic mimony arium eryllium tanganese admium ickel bromium elenium obalt tallium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89 0.20 0.20 7.7 6.4 0.023	0.0012 0.011 0.0024 0.0011 0.026 0.00075 0.0059 0.0064 0.0038 0.0086 0.0064 0.0051	0.32 0.32 0.32 0.80 0.32 0.32 0.32 0.32 0.32 0.64 0.32 0.32	mg/kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	
SH0168-11 Juminum rsenic nutmony arium eryllium fanganese admium ickel hromium elenium obalt hallium opper anadium	(GTP6-10-082809)	6020 TMP Dry	6100 4.7 0.64 89 0.20 200 0.20 7.7 6.4 0.023 4.3	0.0012 0.011 0.0024 0.0011 0.026 0.00075 0.0059 0.0064 0.0038 0.0086 0.0064	0.32 0.32 0.32 0.80 0.32 0.32 0.32 0.32 0.80 0.32 0.64 (0.32	mg/kg dry	10x	50177	09/14/09 11:16	09/14/09 16:25	,

TestAmorica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



ORGANIC ANALYTE - Tier III & IV Data Validation Summary Checklist

GOLDER PROJECT #: 073-9	 		SITE: Avery Landing/ POTLATCH / Idaho							
LABORATORY: Test Ameri	ca		SDG:	SSH01						
SAMPLES		Collect	<u></u>		MATR	IX So	DIL			
24 Soils; See Summary Lab II	Sheet at	tached.								
TEST PIT	SOILS	<u> </u>								
D	ATA ASS	ESSMEN	T SUMMA	RY			_			
REVIEW ITEM	VOA	BNA	Pest /	TPH-Dx	PAH-	OTHER	OTHER			
•	8260	8270	PCB		Sim	06				
1 Date Completes	2000	7	8083			Moistur	<u> </u>			
1. Data Completeness						 				
2. Preservation, Holding Times						 -				
3.GC/MS Tune, Inst. Performance					1	 -				
4. Calibrations		\square			\subseteq					
Surrogates ->	Xe	\sim	XE	X_{\emptyset}						
6. Internal Standards	رت ا		_		ZX3)				
7. Lab Blanks, Field Blanks -	\X ²	Xg	0	2	\bigcirc	ļ				
8. Lab Duplicates, Field Duplicates	\bigcirc					ļ				
9. LCS, Blank Spike, MS/MSD 🗻	<u></u>	X	\$	\mathcal{Q}		<u> </u>				
10.Compound Identification, TICs			\bigcirc			<u> </u>				
11. Result Verification, D.Limits	(-)		\mathcal{Q}			<u> </u>				
12. Overall Summary										
O = Data had no problems			s, but do not		•					
X = Data qualified due to minor pro										
M = Data qualified due to major pro Z = Data unacceptable [typically dat	a rejected ()	۲۱	7			_				
Comments/Qualified Results:	(n) Sa	male #	-zla	ear film	sults (J)dhe	-60			
2 Surrog. out of lin	nif. @	Bath	zurren.	for som	15-09	all voso				
qual. HT (PCB), (3) So	Zelans	for PAH	-02 Gva	1年(弘)	#11-2	4 aual.	<u> </u>			
detects due to 11										
and A-tobo only. OF	Juaneur	eonsw	12-10	rualif. J	due to	ws.				
@Smp1-01'UI' appli							O contou			
in prep blank qual	ifics ?	zelect'	Sample	s us/~*	<u> </u>	modor	ter			
Samples of "U'see						uts in c	SI PONC			
blanks affect same	Ste-10	as es	Himated	(I), and	other s	unples!	1			
9) Don ni Nitrosophenyla	mine &	habozo	le vineo							
as Juston Sound				, (°						
	1	nA				. 1				
Validated by: \mathcal{M}	150	/d/J		<u></u>	Date:	<u> </u>	<u>20,2009</u>			
Reviewed by:	\ \ /	•			Date		,			

ORGANIC ANALYTE - Tier III & IV Data Validation Summary Checklist

Acceptable:

		YES	NO
1. Date Package Completeness (Check if pres	ent)		
Case narrative	Blank Results		
Case harrange	—	ceptable	
Sample Results	Internal Standards x Ab	•	
Detection Limits		t required for	
GC/MS Tuning		ta package	
Initial Calibration		quested.	
Continuing Calib.	Raw Data Other		. *
		OF 9	1.
Comments/Qualified Results: \\ \tag{Blank}			MIKG
	Kr=0.	100	^-
	·		
·			
			
			 -
			_
2. Holding Times (Check all that apply)			
Unpreserved VOA analyzed in 7 days from collection; Preserve	ed 14 days from collection		
_Onpreserved vOA analyzed in 7 days from collection, Preserve _BNA samples extracted within 7 days (14 day soil) of collection	at 14 days from collection		
BNA extracts analyzed within 40 days of collection			
Pest/PCBs samples extracted within 7 days (14 day soil) of coll	ection		•
Pest/PCBs extracts analyzed within 40 days of collection			
Qualify as estimated (J/UJ) all results analyzed past hold time limit	ts, but within 2X of the limit. Outside	the 2X limit, o	_l ualify
letects as (J) and non-detects as (UR).	- 1	-	~! - !
Comments/Qualified Results:	Sammary H	lime	<u> sheet</u>
PCB analysis out of Hold	according to 1)V. Quì	delives
but citation from SW846	allore 1 year	- 10 L	d Nana
ac charton from 3-20 10	MINORS - YEAR	7	A PEN YO
- NO QUALIF. Applied 1	12-16-09		<u>'</u>
	70, - 10-01,		
+ Cita SUI-SUI Madada Unda	La TIT Noon of To	lole H-	i aud
x core on ore precious explus	TE IN CHICIDA IT IN	.010	1000
Method Update for 8082	A		
1			
3. GC Instrument Tune, Performance Check		Г	7
. So histidificial fulle, refloifilatioe officer.		<u>.</u>	4
GC/MS Tuning performedRes 0	Chk Mix, MidPoint AB <60%. (J for d	etecte LIP ati	nor)
	resolution <90% adj pks, (J for deter		
	Endrin breakdown >20%, (J for DDI	D.DDT. Endri	n.
Endrin A	Aldehyde, Endrin Ketone, or NJ/R)		•
_Res Check Mix; MidPoint AB, TCMX, DCBP within RT windows	from ICAL AB mixture (Fix or R/UR)	ı	•
Comments/Qualified Results:			
			
	·		
· ·			

ORGANIC ANALYTE - Tier III & IV Data Validation Summary Checklist

Acceptable:	tes	, NO
4. Initial & Continuing Calibration (Check all that apply)	ď	
GC/MS Data:ICal RRFs>0.05 all cmpnds (If no,J/UR), [>0.01 for Poor Performers] VOA, SVOAICal RSD of RRF <30% all cmpnds (If no,J detects) [<50% for Poor Performers] VOICal RSD of RRF<20.5% all cmpnds (If no,J detects) [<50% or *30% for Poor Performers] Note: *Applies to 2,4-DNT, 2-Nitrophenol, and 2,4-DMP only [SVOA].)A ormers] SVO	A
Continue Cal. +/- 30% Diff of RRF (if no, J/UJ) [+/- 50% Diff, Poor Performers] VOAContinue Cal. %D <25% all cmpnds (if no, J/UJ), VOA, SVOA Pesticide/PCB:RSD<10% for performance checks (if no J detects)Stnds analyzed prior to analysis, & at proper frequency	A, SVOA	
Continuing Cal. % Diff. <15% for quant. (<20% for confirm column).	P.C. ~	ool. F
other SDG For somples texted in it	A-flu	s Same
analytical batches - NO Qualitap	Mes	
		
		···
	· · · · · · · · · · · · · · · · · · ·	
5. Surrogates (Check all that apply)		×
Surrogates analyzed Recoveries within Method Control (lab) limits (VOA: 80 – 120%, SVOA: Lab Established, PEST: 3 Recoveries above Method Control limits (J detects only) Recoveries below Method Control limits but>20% (J/UJ) Recoveries below 20%, 10% for PEST (J/UR for VOA, J/UJ or UR for SVOA J/UR for PEST) Comments/Qualified Results TPH-Dx Z-FBP1 for Surpl - C Sumples - 10 - 13 grued Results TPH-Dx 21. Results qualified PCB-Law for -02 04 -11 -20 -23 \$ -24 Single Surv)(-)[<u>\$</u> (1) [6]	m-zionly.
		-ZFBP+for
Smpls -01-02-11,-13,-17,-20 \$ 24 - No Qual applie	a &VC	A-BFB+ for
	SVOA	Simple diluted
6. Internal Standards Performance		X X
vinternal standards added to all QC and samples		
Internal standards areas within Control Limits* [+/-40% VOA, +/-50% SVOA]* *Associated with 12 Hour CCV Stnd. Internal standards out of Control limits but >10% (J/UJ)		
Internal standards zero or <10% of Control limits (J/UR) Internal standards RTs within +/-20 sec window (If no, J/UJ)		
Comments/Qualified Results: PAHs - Smpls -02 (3/R) : 1	L -11 -2	24 qualif(J)
for detects, only. UDA V : SUDA V		
		

	ORGANIC ANALYTE - Tier III & IV Data Validation Summary	Checklist		
	Acceptable:	Yes	NO	
	7. Laboratory Blanks, Field Blanks (Check all that apply)		\times	
	Method Blanks, Prep.Blanks analyzed after Cal Stnds and every 12 hours Method Blnk Common Lab Contaminants, list: MeCl2, Cyclohex (<10X RLs); Acetone, 2-butanon. Other Contaminants: Qualify results (< 5X RL) according to Chart below. Instrument blanks after all high level samples, All cmpnds must be <rl< td=""><td>e (<2X RLs)</td><td>; Chart</td><td></td></rl<>	e (<2X RLs)	; Chart	
	Comments/Qualified Results: BLANK MDL Result PQL	SAMPLE Result 0.8 1.8 1.1 1.8 0.85 1.8	Q Applied 1.0 U 1.8 J 1.5 U 1.8 J 0.85 J	1
~0@~\\	PCB Batch 0048 9/11 = #00867/161. PAH Batch Batch #0042 9/14 1: #0060 9/14 VOA - MB 722/1A - 810/1A 928/1A defects Brown	204 8 10=10* meth.1	731 # 0010 % 96.8 70 X Me Cl : 1969 153	±4
300 Cours	942/1A V & Detects affect Simple -02-01-03RE*,041 07RE, 09RE, 11RE*, 12RE, 13RE*, 14RE, 15RE, 16RE, 17RE*,1 ECTION 12, For SVOA BLANKS > 8. Duplicate, Field Duplicates (Check all that apply)	14.		,
	Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X CRDLDuplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CRDLField duplicate RPD ≤20% (≤35% for soils) Comments/Qualified Results	· ·	<u> </u>	
			· ·	é
	9. MS/MSD, Lab Control Samples, Blank Spikes (Check all that apply)□	<u> </u>	
	LCS %R 80-120% LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <idl %r="" (r="" (uj)="" <50%="" all="" and="" estimated="" lcs="" r<="" rejected="" results="" td="" ur)=""><td>oc qu</td><td>alified</td><td></td></idl>	oc qu	alified	
	Comments/Qualified Results: TPH-Dx #0006, WS on 12 1	Batch # 1KNo	1027 1, Qual.	
⊗	Batch#0070 LCS, MS on -024 > 4x SpK-nto Qual. MS on -05+ renovery Qualifice #-05 as(J/UJ). Ba	POB toh#o	- Ratol Hous?	ies

MS on -072 PAH Batch #1204 MS non-Assoc; Batch #010LCS K

MS-nonAsori Ratch #004265, M8 on #06 record is Botol #0060 Les V (*) WS on #-24-Fluorene qualif. (Itux) on #24 only

Acceptable:	Yes	NO
10.Compound Identification, TICs		
Comments/Qualified Results:		<u>. </u>
		<u> </u>
		<u> </u>
11. Result Verification, Detection Limits		X
All results supported in raw dataDetection Limits appropriate to meet project needs (Review Work Plan, QAPP)	,	
Comments/Qualified Results: PCB Lab RL@ 0-01 wg/kg	V TI	>4-Dx
2) PAH - Sample - 20 does not meet Reg. Some	on Lei	vel For
Dibouzo (21) Anthracero - NO QUAL. Advisor,	<u> Sa</u>	me for
-21 \$ -23 also,		
		· .
12. Overall Assessment		
Comments/Qualified Results: SWA BLANK Vin diethy phe	hal d	i-n-baldph,
di-n-octylphthal detected: 10x = 0.0203, 0.0	59 6	0038 respect
)9/15-di-n-but/1ph 0.0919=10x 3 Affected >u	p(s -0	1-03-05,-06,
-07,-08,-10*-11,-12,-14,-15,-16 (18) (19)	<u>\91</u>	an Al-Gas
(VOA-LCS) 9/04/9/08/9/09/9/10/ (SUOA-LC) diphonylam. & carbozole & assoc results (J/UJ)	57 10	A M-MILLIAGO -
(VOA) - Chronic Blank Contamination Found	lin h	ab (Pren) Blowks
and Field Blanks and associated Samples		
all detects found on 9-09-09 analysis to be	Sub	iect to
Lab Contamination and 5 "U" qualifier walues < 1.0 mg/kg-dry The 12-16-09.	s ap	plied to all
values < 1.0 mg/kg-dry 12-16-09.	1	



11922 E. 15T AVERUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Project Name:

Avery Landing

Project Number:

073-93312-03

Redmond, WA 98077

Project Manager:

Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-01 (GTP1-10.5-082709)		Soi	1		Samp	led: 08/	27/09 09:40			
Diesel Range Hydrocarhons	NWTPH-Dx	8670		316	mg/kg dry	10x	9090006	09/01/09 13:16	09/12/09 03:02	
Heavy Oil Range Hydrocarbons		12800		791	٠	•	*		н	
Surrogate(s): 2-FBP			175%			- 150 %	• н			3
p-Terphenyl-d14			99.7%		50 -	- 150 %	".		н	
SSH0168-02 (GTP1-13.5-082709)		Soi	1		Samp	led: 08/	27/09 10:10	٠		ā
Diesel Range Hydrocarbons	NWTPH-Dx	1630	-	229	mg/kg dry	10x	9090006	09/01/09 13:16	09/12/09 03:25	
Heavy Oil Range Hydrocarbons	н	2900		571	•	e	at .	4	19	
Surrogate(s): 2-FBP			101%		50	150%	H		ŧ	
p-Terphenyl-d14			96.7%		50 -	150 %	•			
SSH0168-03 (GTP3-3.5-082709)		Sof	<u> </u>		Samp	led: 08/	27/09 14:15			
Diesel Range Hydrocarbons	NWTPH-Dx	44,2		10,8	mg/kg dry	lχ	9090006	09/01/09 13:16	09/12/09 03:49	
Heavy Oil Range Hydrocarbons		209		26,9	•	•	•	*	, H	
Surrogate(s): 2-FBP	_		93.8%		50 -	150 %	*		H	
p-Terphenyl-d14			111%		50 -	. 150 %	**		# -	
SSH0168-04 (GTP3-5-082709)		Soil	l		Samp	led: 08/	27/09 14:35			
Diesel Range Hydrocarbons	NWTPH-Dx	770	-	69,2	mg/kg dry	5x	9090006	09/01/09 13:16	09/16/09 20:13	
Heavy Oil Range Hydrocarbons	n	999		173	*	•	H		h	
Surrogate(s): 2-FBP			75.2%			150%	e		. •	
p-Terphenyl-d14			117%		50 -	150 %	*		. "	
SSH0168-05 (GTP3-13.5-082709)		Soil	l .		Samp	led: 08/	27/09 14:49			
Diesel Range Hydrocarbons	NWTPH-Dx	23,7		12.9	mg/kg dry	lx	9090006	09/01/09 13:16	09/16/09 12:14	
Heavy Oil Range Hydrocarbons	e ·	61.4		32.3		•		н	ta .	
Surrogate(s): 2-FBP	· · · · · · · · · · · · · · · · · · ·		89.2%			150 %	,		"	
p-Terphenyl-d14			106%		50 -	150%	н ′		#	
SSH0168-06 (GTP4-2.5-082709)	•	Soil			Samp	led: 08/	27/09 15:40			·
Diesel Range Hydrocarbons	NWTPH-Dx	25.6		10.5	mg/kg dry	. 1x	9090027	09/04/09 10:38	09/11/09 20:46	
Heavy Oil Range Hydrocarbons	. 11	145		26.4	H	*	, h			
Surrogate(s): 2-FBP			94.0%		50 -	150 %	N			
p-Terphenyl-d14			101%		50 -	150 %	n		"	

I	estAmerica	3	ρoJ	can	1

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11922 E, 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/01/09 10:07

Semivolatile Petroleum Products by NWTPH-Dx TestAmerica Spokane MRL Method Result MDL* Units Dil Batch Prepared Analyzed Notes Analyte Sampled: 08/27/09 15:59 SSH0168-07 Soil (GTP4-8.0-082709) NWTPH-Dx ND 16.1 mg/kg dry 1x 9090027 09/04/09 10:38 09/11/09 21:10 Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons ND 40.1 Surrogate(s): 2-FBP 84.8% 50 - 150 % p-Terphenyl-d14 97.5% 50 - 150 % Sampled: 08/27/09 16:40 Soil SSH0168-09 (GTP5-3.0-082709) 09/04/09 10:38 Diesel Range Hydrocarbons NWTPH-Dx ND 16.8 mg/kg dry 9090027 09/11/09 21:33 41.9 Heavy Oil Range Hydrocarbons ND Surrogate(s): 2-FBP 90.1% 50 - 150 % p-Terphenyi-d14 105% 50 - 150 % Sampled: 08/27/09 16:53 SSH0168-10 (GTP5-7.0-082709) Soil 9090027 09/04/09 10:38 09/11/09 21:57 NWTPH-Dx 774 31.0 Diesel Range Hydrocarbons mg/kg dry 77.5 Heavy Oil Range Hydrocarbons 1090 Surrogate(s): 50 - 150 % ,, 2-FBP 87.7% p-Terphenyl-d14 184% 50 - 150 % 2X Soil Sampled: 08/28/09 10:36 (GTP6-10-082809) SSH0168-11 09/04/09 10:38 NWTPH-Dx 9660 471 mg/kg dry 9090027 09/11/09 22:20 Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons 3150 118D 2-FBP 50 - 150 % Surrogate(s): 45396 **Z**3 50 - 150 % p-Terphenyl-d14 114% Sampled: 08/28/09 10:10 Soil SSH0168-12 (GTP6-2.5-082809) 09/04/09 10:38 Diesel Range Hydrocarbons NWTPH-Dx ND 11.4 mg/kg dry 9090027 09/11/09 22:44 28.4 Heavy Oil Range Hydrocarbons ND Surrogate(s): 86.9% 50 - 150 % 50 - 150 % p-Terphenyi-d14 102% SSH0168-13 (GTP6-17-082809) Soil Sampled: 08/28/09 11:11 09/04/09 10:38 NWTPH-Dx 46.3 -9090027 09/11/09 23:07 2x -Diesel Range Hydrocarbons 431 mg/kg dry

116

50 - 150 %

50 - 150 %

TestAmerica Spokane

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Randee Decker, Project Manager

Heavy Oil Range Hydrocarbons

2-FBP

p-Terphenyl-d14

Surrogate(s):



2X

1200

90.7%

259%



Golder Associates, Inc.

Project Name:

18300 NE Union Hill Rd. Suite 200

Project Number.

Avery Landing 073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/01/09 10:07

Semivolatile Petroleum Products by NWTPH-Dx TestAmerica Spokane Method Result MDL MRL Units Dil Botch

Analyte	<u></u>	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-14	(GTP7-2.5-082809)		So	il		Samp	led: 08/	28/09 12:50			
Diesel Range Hyd	lrocarbons	NWIPH-Dx	ND		15.g	mg/kg dry	lx	9090027	09/04/09 10:38	09/11/09 23:31	
Heavy Oil Range	Hydrocarbons	Ħ	42.2		39.5	#	•	ħ	٠.	н .	
Surrogate(s):	2-FBP			89.1%		50 -	150 %	"			
	p-Terphenyl-d14			107%		50 -	150 %	rr rr		**	
SSH0168-15	(GTP7-10.0-082809)		So	il		Samp	led: 08/	28/09 13:27			
Diesel Range Hyd	lrocarbons	NWTPH-Dx	23.4		10.5	mg/kg dry	lx	9090027	09/04/09 10:38	09/12/09 00:41	
Heavy Oil Range	Hydrocarbons	•	182		26,2	*	*	N	h	"	
Surrogate(s):	2-FBP	<u> </u>		88.2%		50 -	150 %	н			
	p-Terphenyl-d14			98.2%		50 -	150 %	W		· - #	
SSH0168-16	(GTP7-18-082809)		So	il		Samp	led: 08/	28/09 13:58			
Diesel Range Hydi	rocarbons	NWTPH-Dx	ND		16.9	mg/kg dry	lx	9090027	09/04/09 [0:38	09/12/09 01:04	
Heavy Oil Range I	Hydrocarbons		ND	·	42.3	H .	*	4		•	
Surrogate(s):	2-FBP			90.3%		50 -	150 %	#	· · ·	и	
	p-Terphenyl-d14	÷		105%		50 -	150 %	*		и	
SSH0168-17	(GTP2-2.5-082709)		So	il ,		Samp	led: 08/	27/09 11:40			
Diesel Range Hyd	recarbons	NWTPH-Dx	. 24.7		11.8	mg/kg dry	lx	9090027	09/04/09 10:38	09/12/09 01:28	
Heavy Oil Range	Hydrocarbons	۳,	252		29.4	. •	*	,		ħ	
Surrogate(s):	2-FBP			91.7%		50 -	150 %	н		"	
	p-Terphenyl-d14			99.8%		50 -	150 %	,			
SSH0168-18	(GTP2-8-082709)		Soi	il		Samp	led: 08/	27/09 11:58			
Diesel Range Hydr	ocarbons	NWTPH-D _x	ND		11.5	mg/kg dry	lx	9090027	09/04/09 10:38	09/12/09 01:51	
Heavy Oil Range H	lydrocarbons		ND	_	28,8	•	•	н	#	•	
Surrogate(s):	2-FBP			83.5%		50 -	150 %			н	
	p-Terphenyl-d14			102%		50 -	<i>150 %</i>	**		"	
SSH0168-19	(GTP2-13-082709)		Soi	1		Samp	led: 08/2	27/09 17:28		2.7	
Diesel Range Hydr	ocarbons	NWTPH-D _X	ND		12.7	mg/kg dry	lx	9090027	09/04/09 10:38	09/12/09 02:15	
Heavy Oil Range H		Ħ,	ND		31.7	• •	•	*		н	
Surrogate(s):	2-FBP			78.4%		50 -	150 %	п		<i>tt</i>	
2 .,	p-Terphenyl-d14			92.1%		50-	150 %	er .		Ħ	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPDKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Project Name:

Avery Landing

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager: Doug Morell 10/01/09 10:07

Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

Analyte	Method	Result (MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-20 (GTP1-2.5-082709)		Soil		Samp	led: 08/	27/09 09:20			
Diesel Range Hydrocarbons	NWTPH-Dx	452	17.2	mg/kg dry	lх	9090027	09/04/09 10:38	09/12/09 02:38	,
Heavy Oil Range Hydrocarbons	•	3830 —	1080	н	25x	•	h	09/15/09 18:02	
Surrogate(s): 2-FBP		77.4%		50-	150 %	İx		09/12/09 02:38	
p-Terphenyl-d14		83,5%		50 -	150 %	17		N	
SSH0168-21 (GTP5-11-082809)		Soil		Samp	led: 08/	28/09 09:37			
Diesel Range Hydrocarbons	NWTPH-Dx	342 J —	43,6	mg/kg dry	4x	9090027	09/04/09 10:38	09/12/09 03:02	
Heavy Oil Range Hydrocarbons		985 ブ —	109	*	M		п	•	
Surrogate(s): 2-FBP		12.5%	٠	50 -	150 %	п	•	п	Z3
p-Terphenyl-d14		17.4%		50 -	150 %	H		n	Z 3
SSH0168-22 (TS-COMP-1)		Soil		Samp	led: 08/	27/09 18:10			·
Diesel Range Hydrocarbons	NWTPH-Dx	763 —	11.7	mg/kg dry	lx	9090027	09/04/09 10:38	09/12/09 03:25	
Heavy Oil Range Hydrocarbons	. н	263	29.1		*	*		ħ	
Surrogate(s): 2-FBP		111%			150 %	u u		n	
p-Terphenyl-d14		93.7%		50 -	150 %	я		n	
SSH0168-23 (TS-COMP-2)		Soil		Samp	ied: 08/	27/09 18:28	<u>-</u>		
Diesel Range Hydrocarbons	NWTPH-Dx	2120	18.6	mg/kg dry	1x	9090043	09/08/09 18:28	09/13/09 13:45	
Heavy Oil Range Hydrocarbons	ts	1090 —	46,4	ŧr .	•	*	. ".	•	
Surrogate(s): 2-FBP		122%			150 %	,		**	
p-Terphenyl-d14		105%		50 -	150 %	~		"	
SSH0168-24 (TS-COMP-3)		Soil		Samp	led: 08/	27/09 16:40			
Diesel Range Hydrocarbons	NWTPH-Dx	1790	34.8	mg/kg dry	lx ,	9090070	09/10/09 14:30	09/16/09 20:36	
Heavy Oil Rauge Hydrocarbons	•	2050	87.1	n		я	Ħ	H	
Surrogate(s): 2-FBP		110%			150 %	n		tt .	
p-Terphenyl-d14		115%		50 -	150 %	,		n	
SSH0168-25 (GTP4-6.0-082709)		Soil		Samp	led: 08/2	27/09 15:49			
Diesel Range Hydrocarbons	NWTPH-Dx	11.3	10,7	mg/kg dry	1x	9090043	09/08/09 18;28	09/13/09 14:10	
Heavy Oil Range Hydrocarbons		41.9	26.8		n	*	1		
Surrogate(s): 2-FBP		79.3%		50 -	150 %			*	
p-Terphenyl-d14		105%		50 -	150 %	*		"	

TestAmerica S	pokane
---------------	--------

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Cardindesto Randee Decker, Project Manager





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-01	(GTP1-10.5-082709)		Soil			Samp	oled: 08/2	7/09 09:40	······································		Rì
1-Methylnapthale	ene	EPA 8270 mod	ND		0.0831	mg/kg dry	5x	9090010	09/02/09 09:02	09/02/09 17:57	
2-Methylnaphtha	lene	н	ND		0.0831		*	n	*	P	
Acenaphthene		*	0.498		0,0831		•	*	Ħ	D	
Acenaphthylene		*	ND	_	0,0831	•		*	a	*	
Anthracene		n	1.55	 .	0.0831	•	н		•	*	
Benze (a) anthra	cene		0.348	_	0.0831	•	*			*	,
Benzo (a) pyreno	1	•	0.301	_	0.0B31	h	•	•	•	đ	
Benzo (b) fluorar	thene	н	ND		0.0831	•	tı	•	•	•	
Benzo (ghi) pery	iene		0.459	_	0.0831		7		r	•	
Benzo (k) fluorar	thene	Ir	ND		0.0831	P	н	h	н	• ,	
Chrysene			0.989	-	0.0831	*	•	P	n		
Dibenzo (a,h) an	thracene		0.245		0.0831	#	•	•	*	•	
Fluoranthene		•	0.150	_	0.0831	*		*	я	ń	
Fluorene		•	1.41		0.0831	•	н		•	b	
Indeno (1,2,3-cd)	pyrene		0.277		0.0831	•	#			•	
Naphthalene		Ħ	0,427	_	0.0831	•	•	Ħ	•	•	
Phenmihrene		•	0.894		0,0831		•	77	#	•	
Pyrene			2.25	-	0.0831	*			•	•	
Surrogate(s)	Nitrobenzene-d5		68	3.0%		38.8	139 %			P P	
	2-FBP	•	37	7.0%		40 -	132 %	*		" Z	3
	p-Terphenyl-d14		1.	32%		31.7	- 179 %	a		,,	
SSH0168-02	(GTP1-13.5-082709)		Soil	Q		Samp	led; 08/2	7/09 10:10			
-Methylnapthal	ene	EPA 8270 mod	0.0579		0.00495	mg/kg dry	1x	9080204	08/31/09 13:00	09/15/09 19:13	
2-Methylnaphthal	епе	H 1	ND	_	0.00495	•	*		#	' m	
Acesephthene		п	0.00508		0.00495			P	H	7	,
Acenaphthylene			ND R		0.00495	`н	•			•	la.
Anthracene		N	0.198 🏅		0,00495	*	•	•			
Benzo (a) anthra	tene		0.0737		0,00495	**		•		*	
• •		*	0.0259		0.00495		*		**	н	
Senzo (a) pyrene			0.0518	_	0.00495	. •		M		•	
	ithene	=				_	_	-			
Benzo (b) fluorar			0.0345		0.00495	•					
Benzo (b) flaorar Benzo (ghi) peryl	ene	. #	مك	_	0.00495 0.00495	11		•	•	•	Ia
Benzo (b) fluorar Benzo (ghi) peryl Benzo (k) fluoran	ene	m H	0.0345			11 11		•		K B	
Benzo (b) floorer Benzo (ghi) peryl Benzo (k) fluoren Chrysene	ene thene)* (1	0.0345 4 ND R	-	0.00495	11 11		•	*	N P	Ia
Senzo (a) pyrene Benzo (b) fluorar Benzo (ghi) peryl Benzo (k) fluoran Chrysene Dibenzo (a,h) ant Tuoranthene	ene thene		0.0345 V ND R 0.168 7	-	0.00495 0.00495	11 11 14			** ** ** **	•	Ia
Benzo (b) fluorer Benzo (ghi) peryl Benzo (k) fluoran Chrysene Dibenzo (a,h) aut	ene thene	**	0.0345 V ND R 0.168 3		0.00495 0.00495 0.00495	11 11 14 15	•	# # # # # # # # # # # # # # # # # # #		* * * * * *	In

TestAmerica Spokane

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11922 E, 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: Project Manager; 073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Method	Passit	(C)_MIDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	No	tes
			Soil	MAL				rreparcu	(ZHRIJACA	140	
SSH0168-02 (GTP1-13.5							27/09 10:10				
Phenanthrene	EPA 8270 mod	0.0635	<u> </u>	0.00495	mg/kg dry	lx	9080204	08/31/09 13:00	09/15/09 19:13		J
Ругепе	В	0.396	<u> </u>	0.00495		91					
Surrogate(s): Nitrobenzei	ne-d5		114%		38.8	- 139 %	"		11		
2-FBP			28.0%		40	- 132 %	n		tı	Ia. Z	
p-Terpheny	d-d14		151%		31.7	- 179 %	4		n	Ia	
SSH0168-03 (GTP3-3.5-1	982709)	s	Soil		Samp	oled: 08/	27/09 14:15				
1-Methylnapthalene	EPA 8270 mod.	ND		0.00467	mg/kg dry	1x	9080204	. 08/31/09 13:00	09/15/09 02:47		
2-Methylnaphthalene	pro mot.	מא מא		0.00467	*	•	"	*	»		
Acenaphthene	и	ND		0.00467		•	h		*		
Acenaphthylene		סוא סוא	_	0.00467			H		n		
	•			0.00467	*				g		•
Anthracene	•	מוא מוא		0.00467	*		#				
Benzo (a) anthracene	•			0.00467		n	н				
Benzo (a) pyrene		ND									
Benzo (b) fluoranthene		0.00958		0.00467		- н	-	. #	,		
Benzo (ghi) perylene	41	0,0105	_	0.00467			,				
Benzo (k) fluoranthene		ND				_			_		
Chrysene		6,00670		0.00467		,			•		
Dibenzo (a,h) anthracene		ND		0.00467	_	_					
Fluoranthene	". •	0.00527		0.00467	,				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Fluorene		ND	-	0.00467		-	-				
Indeno (1,2,3-ed) pyrene	•	0,00862		0.00467							
Naphthalene		ND		0.00467	-	_	_	_			
Phenanthrene -		0.00527		0.00467	-	-		,	•		
Pyrene	*	0.0101		0.00467							
Surrogate(s): Nitrobenzen	re-d5		74.4%		38.8	- 139 %	•		"		
2-FBP			81.2%			- 132 %	Ħ				
p-Terphenyl	1-414		106%		31.7	- 179 %	"				
SSH0168-04 (GTP3-5-08	2709)	s	oil		Samp	led: 08/2	27/09 14:35		·	· 	RL
-Methylnaptbalene	EPA 8270 mod.	0.0105		0.00645	mg/kg dry	1x	9090010	09/02/09 09:02	09/02/09 17:35	-	
l-Methylnaph thalene	•	0.0105		0.00645	*	0			и		
Acenaphthene		ND		0.00645	-#1	•	. *	•	•		
Acenaphthylene	n	ND	-	0.00645	•	*	#	•	. *		
Inthracene		0.805		0.00645	H		*	•			
Benzo (a) anthracene	•	0.0295		0.00645		*	. н	•	#		
lenzo (a) pyrene		0.0350		0.00645	•	0	н	79	*		
Benzo (b) fluorantheme	#	0,0627		0.00645	н —				н		

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager:

Doug Morell

Report Created; 10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-04 (GTP3-5-082709)		, Soi	il		Samp	oled; 08/	27/09 14:35			RL
Benzo (ghi) perylene	EPA 8270 mod.	0.0541	_	0.00645	mg/kg dry	1x	9090010	09/02/09 09:02	09/02/09 17:35	
Benzo (k) fluoranthene	•	MD		0.00645	•	•	"	7		
Chrysene	W	0.0725		0,00645	n		u	H	• .	
libenzo (a,h) anthracene		0.0154		0,00645	H	,	at t	n	п	
luoranthene	H	0,141		0,00645	2	*	*	W	**	
luorene	h	0.00984		D,00645	#	-		Ħ	•	
ideno (1,2,3-cd) pyrene	н	0.0264	· 	0,00645		H	н	M	•	
Naphthalene	H	ND		0.00645	4	#	n		н	
henanthrene	*	0.0799		0.00645		я	*	*	•	
yrene	•	0.168		0,00645		•		. *		
Surrogaie(s): Nitrobenzene-d5			101%		38.8 -	139 %	,,		и	
2-FBP			52.4%		40 -	· 132 %	п		Ħ	
p-Terphenyl-d14			106%		31.7 -	179 %	π		D.	
SH0168-05 (GTP3-13.5-082709)	•	Sei	1		Samp	led: 08/2	27/09 14:49			
Methylnapthalene	EPA 8270 mod.	ND		0.00474	mg/kg dry	1x	9090010	09/02/09 09:02	09/02/09 17:14	
Methylnaphthalene	W	ND	_	0.00474		•	•			
cenaphthene	п	ND		0.00474	•	•	77	7	h	
cenaphthylene		ND		0.00474	T.	. •		7	*	
nthracene	, *	ND		0.00474	•	•				
enzo (a) anthracene	•	ND	_	0.00474	٦,	•	*		•	
enzo (a) pyrene	*	ND	_	0.00474				ú		
enzo (b) fluoranthene	•	ND	. —	0,00474	•	•		p	•	
enzo (ghi) perylene	pr .	ND		0.00474	π	н		•		
enzo (k) fluoranthene	Ħ	ND		0.00474				•	•	
hrysene		ND		0,00474			Ħ		*	
ibenzo (a,h) anthracene	•	ND		0.00474		•	**	*		
uoranthene	n	ND		0.00474	π		41		•	
uorene		ND	_	0,00474	=	•	W	Ħ	•	
deno (1,2,3-cd) pyrene		ND		0.00474	•		W	12	R	
aphthalene		ND		0.00474	h		*		•	
nenanthrene	•	ND		0,00474			•		ч	
viene	•	ND		0.00474		•	=		•	
Surrogaie(s): Nitrobenzene-d5			43.4%		38.9	139 %	"			
2-FBP			43.4% 44.4%			132 %	,		p	
p-Terphenyl-dl 4			61.2%			179 %	_		_	

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number:

073-93312-03

Report Created:

Project Manager:

Doug Morell

10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
	Meduon	Soil		MKL	•		27/09 15:40	rrepareu	Unstand	Notes
SSH0168-06 (GTP4-2.5-082709)	TD . ODGo			0.00.00				00.000.000.00	00/15/00 00 51	
I-Methylnapthalene	EPA 8270 med.	ND		0.00492	mg/kg dry	lx "	9090042	09/08/09 13:27	09/15/09 03:51	
2-Methylnaphthalene		ND	_	0.00492			-	-	•	
Acenaphthene	•	ND		0.00492	•	•	-			
Acenaphthylene	•	ND	-	0.00492	•	•	•	•	•	
Anthracene		ND		0.00492	•	u	•	•	•	
Benzo (a) anthracene	19	. ND	_	0.00492	•	н	н	•	•	
Senzo (a) pyrene	•	0.00516		0.00492	•	н	*	•		•
lenzo (b) fluoranthene	•	0.0117		0.00492	*	*	•	•	•	
enzo (ghi) perylene		0.00985	_	0.00492	*	•	*	•	."	
Senzo (k) fluoranthene	, 4	ND		0,00492	•			•	"	•
hrysene	u	0.00609	_	0.00492	H	*	н.		₩	
Pibenzo (a,h) anthracene		ND		0.00492	•	ŧ	н		*	
luoranthene		0.00656		0.00492	b	W	•	. "	tπ	
luorene	h	ND	_	0.00492	*		h	•	"	
ndeno (1,2,3-cd) pyrene	. *	ND		0.00492	•	•	*			
laphthalene	ч .	ND		0.00492	•	*	•		W	
henanthrene	, p	ND		0,00492	•	н	•			
yrene:	मं	0.0136		0.00492	= '	*	•	п		
Surrogate(s): Nitrobenzene-d5		<u>.</u>	19.8%		38.8 -	139 %	*		н	
2-FBP			17.2%		40 -	132 %	n		n	
p-Terphenyl-d14		\$	75.4%		31.7 -	179 %	H		u .	
SH0168-07 (GTP4-8.0-082709)		Soit			Samp	led: 08/2	27/09 15:59			
Methylnapthalene	EPA 8270 mod	ND		0.00500	mg/kg dry	1x	9090042	09/08/09 13:27	09/15/09 00:18	
Methylnaphthalene	•	ND		0.00500	π			π	•	
cenaphthene	•	ND		0,00500	я			u	•	
селарыthylene	•	ND		0.00500					н	
nthracene	•	ND		0.00500		•	**	•	n,	
enzo (a) anthracene	н	ND		0.00500			•		*	
enzo (a) pyrene		ND		0.00500			•		•	
enzo (b) fluoranthene		ND		0,00500				. 4		
enzo (ghi) perylene	•	ND		0.00500				. 4	to the	
enzo (k) fluoranthene	-•	ND		0,00500			*	- -	чи	
hrysene		ND		0,00500			•			
ibenzo (a,h) anthracene	n	ND		0,00500						
uoranthene		ND		0.00500				4		
name marks applied.						_	_		_	
luorene	R .	ND		0.00500	77					

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03

Report Created:

Doug Morell

10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Butch	Prepared	Analyzed	Notes
SSH0168-07 (GTP4-8.0-082709)		Soi	i .		Samp	led: 08/2	27/09 15:59			
Naphthalene	EPA 8270 mod	ND		0,00500	mg/kg dry	lx	9090042	09/08/09 13:27	09/15/09 00:18	
Phenanthrene	•	ND		0,00500				•	•	
Рутепе	te	ND		0,00500	н	•	*	7	N	
Surrogate(s): Nitrobenzene-d5	•	****	54.4%		38.8 -	139 %	W		let	
2-FBP			59.2%			132 %	W		•	
p-Terphenyl-d14			89.0%		31.7-	179 %	,,		n	
SSH0168-09 (GTP5-3.0-082709)		Soi	1		Samp	led: 08/2	27/09 16:40			
1-Methylnapthalene	EPA 8270 mod.	ND	_	0.00447	mg/kg dry	lx	9090042	09/08/09 13:27	09/15/09 02:05	
2-Methylnaphthalene		ND	_	0.00447	•	0	,	n	٠ .	
Acenaphthene	•	ND		0.00447	n	•	•	*	-	
Acenaphthylene		ND		0,00447	н		11	W	•	•
Anthracene	•	מא		0,00447		π	μ	Ħ		
Benzo (a) anthracene	4	ND		0.00447		77	U	н		
Benzo (a) pyrene	n	ND	_	0.00447	•	*	Ħ	u	tt	
Benzo (b) fluoranthene	n	ND		0.00447	•		•	u		
Benzo (ghi) perylene	e	ND		0.00447	•		70	#		
Benzo (k) fluoranthene	•	ND		0.00447	u	H			,	
Chrysene	•	ND		0,00447	*	н	•	•	• .	
Dibenzo (a,h) anthracene	*	ND	_	0,00447		Þ	•	•		
Fluoranthene	и .	ND	_	0,00447	•	•	•	•	*	
Fluorene		ND	_	0,00447	4		H	•	•	
ndeno (1,2,3-cd) pyrene		ND		0.00447	ń	•	•		ā	•
Naphthalene	*	ND		0,00447	*	P	•		•	
Phenanthrene	*	ND		0.00447	•		•	• .		
Pyrene	и .	ND		0,00447	*	*	•	*		
Surrogate(s): Nitrobenzene-d5	 		77.0%		38.8 -	139 %	н		.,	
2-FBP		4	81.6%		40 -	132 %	W		a a	
p-Terphenyl-d14			95.6%		31.7-	179 %	"		**	

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 15T AVENUE SPOKARE VALLEY, WA 99205-5302 ph: (509) 924.9200 fax: (509) 924.9290

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18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

			1 CSLAIII	cisca Spi	ALUITO					
Analyte	Method	Result	MDL⁴	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-10 (GTP5-7.0-082709)	·	8	oil		Sam	pled: 08/2	27/09 16:53	,		RL
1-Methylnapthalene	EPA 8270 mod	0.00826		0,00689	mg/kg dry	1x	9090042	09/08/09 13:27	09/15/09 00:39	
2-Methylnaphthalene	•	ND		0.00689	*	11	ii ii		•	
Acenaphthene	•	ND	-	0.00689	•	ii .	'n	•	4	
Acenaphthylene	•	ND		0.00689		k	*	•	•	
Anthracene	*	ND	_	0,00689	H		н	U	•	
Benzo (a) anthracene		ND		0,00689	· •	•	•	b	•	
Benzo (a) pyrene		ND	-	0.00689	#	•		. •	•	
Benzo (b) fluoranthene	k	ND	_	0.00689	•	•			H	
Benzo (ghi) perylene		ND		0,00689	m		W		•	
Benzo (k) fluoranthene	•	ND		0,00689	ú	•	н	#		
Chrysene		ND		0.00689	*	*	н	•	H	
Dibenzo (a,h) anthracene		ND	_	0,00689	M	•			4	
Fluoranthene		0.0579	_	0,00689	• •		•		H	
Fluorene	•	ND		0.00689		•	π	. 4	H	
Indeno (1,2,3-cd) pyrene	•	. ND	-	0.00689	н	•			н	
Naphthalene		0.0147		0.00689			*	*		
Phenanthrene	•	0.0340	· —	0.00689		*	•	•	н	
Pyrene	•	0.295	-	0.00689	. •	•	. *	*	*	
Surrogate(s): Nitrobenzene-d5			66.4%		38.8	- 139 %	,,		п	
2-FBP			77.6%		40	- 132 %	н		и .	
p-Terphenyl-d14			83.8%		31.7	- 179 %	,			
SSH0168-11 (GTP6-10-082809)	•	S	oil 🛇	-	Samp	oled: 08/2	8/09 10:36			
I-Methylnapthalene	EPA 8270 mod.	20.9	1 -	0,209	mg/kg dry	20x	9090042	09/08/09 13;27	09/18/09 17:15	A-0
2-Methylnaphthalene	•		}	0.209	. •		0			A-0
Acenaphthene		0.172	<u> </u>	0.00471	*	lx		H	09/15/09 02;26	A-0
Acenaphthylene	4	ND		0.00471	*	*	•	*		A-01
Anthracene		0.754		0.00471	•	•	*	•		
Benzo (a) anthracene	*	0,00767	•	0,00471	*	*	•	*	•	
Benzo (a) pyrene	•	0.00488		0.00471		•	•	tr	•	
Benzo (b) fluoranthene	*	ND		0,00471	#	•			•	
Benzo (ghi) perylene	. •	0.0209	-	0.00471		•	. •		#	
Benzo (k) fluoranthene	*	ND	_	0,00471	*		•	b	•	
Chrysene	• .	0.0153	-	0.00471	•	•		и		
Dibenzo (a,h) anthracene	•	ND	_	0,00471	×		•	•	H .	
				0,00471			n	#	N	
Auoranthene	•	0.0914		0,00411						
	M H		J _	0,00471			77	• 1	•	A-01
Fluorenthene Fluorene Indeno-(1,2,3-cd) pyreno	н		<u> </u>			· · · · · · · · · · · · · · · · · · ·	# #		b P	A-01

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Phenanthrone Pyrene Surrogate(s):	STP6-10-082809) Nitrobenzene-d5 2-FBP p-Terphenyl-d14	EPA 8270 mod	So ND 0.112	il ,		Samj	pled: 08/2	28/09 10:36			
Pyrene Surrogate(s):	2-FBP	EPA 8270 mod		<u></u>							
Surrogate(s):	2-FBP	,	0.112		0.00471	mg/kg dry	lx	9090042	09/08/09 13:27	09/15/09 02:26	··
	2-FBP				0,0047]	н			•	¥	-
				161%		38.8	- 139 %	#		,,	A-01, ZX
-	p-Terphenyl-d14			26.0%		40	- 132 %	ø		u	A-01. Z
•				93.2%		31.7	- 179 %	er		. "	
SSH0168-12 (C	GTP6-2.5-082809)		Sai			Samı	pled: 08/2	28/09 10:10			
I-Methylnapthalene	,	EPA 8270 mod.	ND		0.00455	mg/kg dry	lx	9090042	09/08/09 13:27	09/14/09 21:48	
2-Methylnaphthalone		₩	ND		0.00455		u	и	»	н	
Acenaphthene			, ND		0.00455	br .		п	*	и	
Acenaphthylene			ND		0,00455		п			н	
Anthracene		•	ND	_	0.00455					*	
Benzo (a) anthracene		•	ND		0.00455	•				н	
Benzo (a) pyrene			ND		0.00455				*		
Benzo (b) fluoranthen	e		ND		0.00455	н	11		н	h	
Benzo (ghi) perylene	-		ND		0.00455					*	
Benzo (k) fluoranthen	e		ND		0,00455		*	h	H	-	
Chrysene	-		ND		0.00455	*	*	•	**	*	
Dibenzo (a,h) anthrac	ene	н	ND		0.00455			4			
Fluoranthene		•	ND	_	0.00455	•		•	н	10	
Fluorene		•	ND		0.00455			*	a n	*	
Indeno (1,2,3-cd) pyre	ene	71	ND		0.00455		π		. н		
Naphthalenc		e .	ND		0.00455	•	*	-		7	
Phenanthrene			ND		0.00455	•	*	*		11	
Pyrene			ND	_	0.00455		н		•	-	
-	Nitrobenzene-d5			69.6%		30 b	- 139 %				
	vurosenzene-as 2-FBP			80.2%			- 132 % - 132 %	,,			
	p-Terphenyl-d14			99.4%			- 179 %			. "	
SSH0168-13 (G	TP6-17-082809)	•	Soi	ı		Samo	oled: 08/2	8/09 11:11			R
-Methylnapthalene		EPA 8270 mod.	0.0412		0.00514	mg/kg dry	lx	9090042	09/08/09 13:27	09/15/09 03:30	
-Methylnaphthalene	•		0.0412		0,00514			4		#	
Acenaphthene		#	ND		0.00514	**	•		п	•	
Acenaphthylene		н	ND		0.00514				•	•	
Infhracene		*	0.00823		0,00514		• ,			*	
Senzo (a) anthracene		•	0.0130		0.00514	7	•	, w*	ч	*	
Benzo (a) pyrene		н	0,0110	, .	0.0051.4	k	· u		и		

TestAmerica Spokane

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Randee Decker, Project Manager

tandi





THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-13 (GTP6-17-082809)		So	ii		Samj	pled: 08/2	8/09 11:11			R
Benzo (ghi) perylene	EPA 8270 mod	0.0103		0.00514	mg/kg dry	. 1x	9090042	09/08/09 13:27	09/15/09 03:30	
Benzo (k) fluoranthene	×	ND		0.00514	45	*	T	•	•	
Chrysene	•	0.0178		0.00514	H	•	41		*	
ibenzo (a,h) anthracene	H	0.00549		0.00514				•	ĸ	
lnoranthene	*	0.0151		0.00514	Ţ.	Ħ	•	u		
luorene _		0,00549		0.00514	*	•	. *	#	•	
odeno (1,2,3-cd) pyrene	•	0.00617		0.00514	•	•		*	. *	
laphthalene	•	0.0185	_	0,00514		•	•		*	
henguthrene	•	0.0130		0.00514		•			•	
yrenc		0,0343		0.00514	H					
Surrogate(s): Nitrobenzene-d5	_	-	35.6%		38.8	- 139 %	ч		"	Z
2-FBP			43.2%		40	- 132 %	Ħ		n	
p-Terphenyl-d]4			68.4%		31.7	- 179 %	n		11	
SH0168-14 (GTP7-2.5-082809)		Sei	l		Samp	led: 08/2	8/09 12:50			
Methylnapthalene	EPA 8270 mod	ND		0.00492	mg/kg dry	lx	9090042	09/08/09 13:27	09/14/09 23:14	
Methylnaphthalene	n	ND		0.00492	**		•	n	и	
cenaphthene	В	ND		0.00492		*	•	n	н	
cenaphthylene		ND		0,00492	W	-	•	*	4	
nthracene	•	· ND		0.00492	•	•	*			
enzo (a) anthracene		ND		0,00492	11		n	. •	h	
enzo (a) pyrene	•	ND		0.00492		•	u		,	
enzo (b) fluoranthene		ND		0,00492		. •		*		
enzo (ghi) perylene		ND		0,00492			u		ъ .	
enzo (k) fluoranthene	4	ND		0,00492	•	•	11	н	a	
hrysene		NID		0.00492		н	n	#	•	
ibenzo (a,h) anthracene	н	ND		0.00492	•	h			#	
uorauthene	n	סנא		0,00492			н			
norene	n	ND		0.00492					п	
ideno (1,2,3-cd) pyrene		ND		0.00492	н				ŧ	
aphthalene	N	ND		0,00492				*	•	
nenunthrene	•	ND		0.00492			*		•	
Arcus Menundu ene	•	ND	. _	0.00492	·					
Surrogate(s): Nitrobenzene-d5			56.4%		18 B	139 %		"	n	
. =										
2-FBP			63.2%		<i>H</i> 1 _	132 %	"			

TestAmerica	Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-15	(GTP7-10.0-082809)		Soi	ı		Samp	led: 08/2	8/09 13:27			
1-Methylnapthal	ene	EPA 8270 mod.	, ND		0.00489	mg/kg dry	lχ	9090042	09/08/09 13:27	09/14/09 23;35	
2-Methylnaphtha	dene	•	ND		0,00489		•		•	•	
Acenaphthene		N	ND		0.00489	•		•	u	•	
Acenaphthylene	-	н .	ND		0.00489	•	*		•	•	
Anthracene			ND		0,00489		n		•	•	
Benzo (a) anthra	cene	v	ND		0.00489	11	*	и .	. •		
Велдо (а) рутеле	;		ND	,	0,00489	#	•		•	ę.	
Benzo (b) fluorar	nthene	•	ND		0.00489	*	۳	•	×	•	
Benzo (ghi) pery	lene	*	ND	_	0.00489	*	•	•		Ħ	
Benzo (k) fluorai	nthene	•	ND		0.00489	*	•	•		n	
Chrysene		u	ND		0.00489	•	*	•	•		
Dibenzo (a,h) ant	thracene		ND		0.00489	٠.	•	•	•		
Fluoranthene		r .	ND		0.00489	H			*	Ħ	
Fluorene			ND	_	0,00489		* •		•	H	
Indeno (1,2,3-cd)	pyrene		ND		0,00489	*	•	*	. •	H	
Naphthalene		•	ND	—	0.00489	۹ ,	•	*	•	in	
Phenanthrene			ND		0,00489	4	•	*		71	
Pyrene		•	ND	· 	0.00489	#		M		•	
Surrogate(s)	: Nitrobenzene-d5			63.8%		38.8 -	139 %	"	•	, m	
	2-FBP			76.6%	-	40 -	132 %	n		"	
	p-Terphenyl-d14			97.2%		31.7-	179 %			•	
SSH0168-16	(GTP7-18-082809)	•	Soil	l ,		Samp	led: 08/2	8/09 13:58			
l-Methylnapthale	ene ·	EPA 8270 mod.	ND		0.00451	mg/kg dry	1x	9090042	09/08/09 13:27	09/14/09 23:56	
2-Methylnaphthal	lene	4	ND		0.00451	•	•	11		•	
Acenaphthene			ND		0.00451	•	٠.	*		н	•
Acenaphthylene		•	ND		0,00451	•		•	•	el	٠
Anthracene			ND		0,00451	•	er		•	•	
Benzo (a) anthrac	ene	*	ND	_	0,00451	•			•	W	
Benzo (a) pyrene		п	ND		0.00451	•		•	•	N	
Benzo (b) fluoran	thene	· u	ND		0,00451	•				н	
Benzo (ghi) peryle	елс	'n	ND	_	0.00451	*		•		, «	
Benzo (k) fluoran	thene	n	ND		0,00451	•			,	σ	
		0	ND		0,00451	•			*	Ħ	
Chrysene	racene		ND		0,00451	. •	*		•	•	
-				•				_	_		
Chrysene Dibenzo (a,h) antl Fluoranthene		W	ND		0.00451	.•	•	п	•	• .	
Dibenzo (a,h) antl		H TI	ND ND		0.00451 0.00451	.*				, ,	<u>.</u>

TestAmerica Spokane

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number;

073-93312-03

10#

Redmond, WA 98077 Project Ma

Project Manager: Dong Morell

Report Created: 10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-16	(GTP7-18-082809)		Soi	il		Samp	led: 08/	28/09 13:58			
Naphthalene		EPA 8270 mod.	ND		0,00451	mg/kg dry	lx	9090042	09/08/09 13:27	09/14/09 23:56	
Phenanthrene		•	ND		0.00451	h	*	*	ď		
Pyrene		•	ND		0.00451	*	*	*	T.	•	•
Surrogate(s):	Nitrobenzene-d5	,		69.2%		38.8	- 139 %	tr .		и	
	2-FBP			74.0%		40 -	- 132 %	1)			
	p-Terphenyl-d14			89.0%		31.7	- 179 %	ri .		п	
SSH0168-17	(GTP2-2.5-082709)	· <u></u> ·····	Soi	1		Samp	led: 08/	27/09 11:40			
i-Methylnapthalen	ie	EPA 8270 mod.	· ND		0.00471	mg/kg dry	lx	9090042	09/08/09 13:27	09/15/09 18:09	
2-Methylnaphthale	ine .	•	ND		0.00471	В	H		#		
Accaphthene		•	ND	-	0.00471	*	•	•	4	• .	
Acenaphthylene		•	ND		0.00471	•	•	•	•	•	
Authracene			ND		0.00471			•			
Benzo (a) anthrac	еле		0.0168		0,00471	•	P	•	•	•	
Benzo (a) pyrene		•	0.0162		0.00471	•	*	•	•	•	
Beozo (b) fluorant	thene	•	0.0335		0.00471	•	tr	. •	h	•	
Benzo (ghi) peryle	еле		0.0204		0.00471	•	*	•	**	•	
Benzo (k) fluoranti	bene	н	ND		0.00471	•	•	•	•	u .	
Chrysene			0.0178	_	0,00471		•	•	⊕ r		
Dibenzo (a,h) anth	ıraçene	*	0.00785	*****	0,00471	•	• •	•		•	
Fluoranthen e		Ħ	0.0257		0,00471	. 6	•	7	•	*	
Fluorene		•	ND		0.00471	•	•	•	н	•	•
Indeno (1,2,3-cd) p	pyrene	•	0.0126	_	0.00471	•	•	•		•	
Naphthalene			ND		0,00471	•	•	• .	R °	•	
Phenanthrene		*	0.00628		0.00471	#		•	**	н	
Ругспе		h	0.0398	*****	0.00471	n	* *	H	. •	п	
Surrogate(s):	Nitrobenzene-d5			31.8%			139 %	H		" z	
	2-FBP			28.6%			132 %	17		" Z	7
	p-Terphenyl-d14			43.2%		31.7 -	179 %	μ		77	

TestAmerica Spokane

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11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99205-5302 ph; (509) 924.9200 fax; (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-18 (GTP2-8-0827	09)	Soi	1		Sampl	led: 08/2	27/09 11:58			
1-Methylnapthalene	EPA 8270 mind.	ND		0,00461	mg/kg dry	lĸ	9090042	09/08/09 13:27	09/15/09 01:22	
2-Methylnaphthalene	•	ND	_	0,00461	*		*	n	•	
Acenaphthene	•	ND		0,00461	•	•		•	*	
Acenaphthylene	и ,	ND	-	0,00461	•		•	•	•	
Anthracene	н	ND	_	0,00461	•		•	•	٠,	
Benzo (a) anthracene	•	0.00820		0,00461	4	•	. •		*	
Benzo (a) pyrene	*	0.00769		0.00461		w		•	ж .	
Benzo (b) fluoranthene	н	0.0123		0.00461		*	ıı	•	н	
Benzo (ghi) perylene		0.00666		0.00461		• .	*	. •	н	
Benzo (k) fluoranthene		ND	<u> </u>	0.00461		•	•	н		
Chrysene	и	0.00871		0,00461	•			•	*	
Dibenzo (a,h) anthracene		ND		0,00461		n	Þ	м		
Fluoranthene	•	0.00820		0.00461	4	W	P	•	Ħ	
Fluorene	•	ND		0,00461	H		•		ti .	
indeno (I.2,3-cd) pyrene		0.00461	_	0,00461	4		#1	ŧπ	41 .	
Naphthalone	•	ND	_	0,00461	H		μ	4	•	
Phenanthrene	•	ND		0,00461	۳	•	ь	*		
Pyrene	•	0.0138		0,00463		b	,	Þ	Ti di	
Surrogate(s): Nitrobenzene-d	15		75.2%		38.8	139 %	"		п	-
2-FBP			81.8%		40	132 %	•		n	
p-Terphenyl-di	14	:	96.4%		31.7	179 %			•	

SSH0168-19 (GTP2-13-082709)		Soil		Samp	led: 08/2		_			
1-Methylnapthalene	EPA 8270 mod.	ND		0,00465	mg/kg dry	1x	9090042	09/08/09 13:27	09/14/09 22:52	
2-Methylnaphthalene	•	ND		0,00465	•		ь ,	Ħ	•	
Acenaphthene	•	ND		0,00465	*	-	*	*	•	
Acenephthylene	•	ND	_	0,00465		•	٠	. "	*	
Anthracene	N	ND		0.00465				•	4	
Benzo (a) anthracene	п	ND	—	0.00465	•		n	•	u	•
Benzo (a) pyrene	•	ND		0.00465	•	n	•	*	*	
Benzo (b) fluoranthene	-	ND	_	0.00465	*	H	٠	**	tı	
Benzo (ghi) perylene	5 . · .	ND		0.00465	. *		. <u>F</u>			
Benzo (k) fluoranthene		ND		0.00465	•	"	•	· •	•	
Chrysene	*	ND	_	0,00465	•	h	*	•		
Dibenzo (a,h) anthracene	*	ND	-	0,00465	. *	•	•	*	** •	
Fluoranthene	•	ND	_	0,00465	•	•	•	•	• .	
Fluorene	ti .	ND		0,00465		•	* .		•	
Indeno (1,2,3-cd) pyrene	н .	ND		0,00465			•		P	

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-19	(GTP2-13-082709)		So	Į.		Samp	pled: 08/	27/09 17:28			
Naphthalene		EPA 8270 mod	ND		0.00465	mg/kg dry	lx	9090042	09/08/09 13:27	09/14/09 22:52	
Phenanthrene			ND	-	0,00465		•	•	• .	k .	
Pyrene		•	ND		0,00465	•	×	u	•	Ħ	
Surrogate(s):	Nitrobenzene-dS			57.6%	•	38.8	- 139 %	u .		**	
•	2-FBP			64.8%		40 -	- 132 %	п		H	
	p-Terphenyl-d14			85.4%		31.7	- 179 %	H		H.	
SSH0168-20	(GTP1-2.5-082709)		Soi	l		Samp	oled: 08/	27/09 09:20			RL
1-Methylnapthaler	18	EPA 8270 mod	ND		0,0268	mg/kg dry	5x	9090042	09/08/09 13:27	09/15/09 19:56	
2-Methylnaphthale	ene	в	ND		0,0268	•		•	4	-	
Acenaphthene		*	ND	. —	0.0268	٠.	н	ħ	*	4	
Acenaphthylene			ND		0.0268	•		•	*	5	
Anthracene		•	. ND		0.0268		h		•	•	
Benzo (a) anthrac	ene	8	0.0459		0.0268	•	n			•	
Benzo (a) pyrene		R .	0.0561		0.0268	•		•	h	•	
Benzo (b) fluoran	thene	Ħ	0,0968		0.0268	*		•	Ħ	41	
Benzo (ghi) peryle	ene		0.0637	_	0.0268	•	и	*	•	•	
Benzo (k) fluorant	hene	•	ND		0.0268	*	*	. •	•	•	
Chrysene		*	0.0382		0.0268		•	P	•	•	
Dibenzo (a,h) anth	гаселе	•	ND		0.0268	H	*	u	n	N	•
Fluoranthene			ND		0.0268	н		4	•	4	
Fluorene		•	ND		9.0268	r	•	•		•	
Indeno (1,2,3-cd)	pyrene	•	0.0510		0.0268	• .	*		•	70	
Naphthalene	•	#	ND		0,0268	*	•		*	n .	
Phenanthrene		u	ND	-	0.0268	•	п	н	*	*	
Pyrene	·	я	0.133		0.0268	н		н		•	
Surrogate(s):	Nitrobenzene-d5			19.0%		38.8 -	139 %	н .		. " 2	3
	2-FBP			7.0%			132 %	#			3
	p-Terphenyl-d14			14.0%		31.7 -	179 %	п		" .	

TestAmerica Spokane

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The results in this report apply to the samples analyzed in accordance with the chain





11922 E. IST AVENUE SPCKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number: Avery Landing

Project Number: 073
Project Manager: Doi

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Vaits	Dil	Butch	Prepared	Analyzed	Notes
SSH0168-21 (GTP5-11-082809)		Soi	!		Samp	led: 08/2	28/09 09:37	·		RL
I-Methylnapthalene	EPA 8270 mod	. ND	_	0.0254	mg/kg dry	5x	9090042	09/08/09 13:27	09/15/09 06:42	
2-Methylnaphthalens	T	ND .	-	0,0254	н	*	#	•		
Acenaphthene		· ND	-	0.0254	•		π	*	u	
Acenaphthylene		ND	-	0.0254		•	. "	•	н	
Anthracene	n	ND	-	0.0254	H	•	tr		0	
Benzo (a) anthracene	H	ND		0.0254	н			*	•	
Benzo (a) pyrene		ND		0.0254	'n	•		•	•	•
Benzo (b) fluoranthene	**	ND	—	0.0254	•	*		•	u	
Benzo (ghi) perylens		ND	-	0.0254		•	•	-	71	
Benzo (k) fluoranthene	e)	ND	· —	0.0254	•	в	•		•	
Chrysene		ND		0.0254			ıt.	•	*	
Dibenzo (a,h) anthracene	H	ND		0.0254	*	•	. Ir	•		
Fluoranthene	•	ND		0.0254		•	•	. •	n	
Fluorene	10	ND		0.0254	77	-	*	"		
Indeno (1,2,3-cd) pyrene	•	ND		0,0254		,		h	q	
Naphthalene	N -,	ND		0.0254		•	ħ	π	• #	
Phenanthrene	•	ND		0.0254		4	•	•		
Pyrene	•	ND		0.0254	•		**	•		
Surrogate(s): Nitrobenzene-d5			51.0%		38.8 -	139 %	n		fr .	
2-FBP			54.0%		40 -	132%	n		d	
p-Terphenyl-d14		•	31.0%		31.7-	179 %	н		"	
SSH0168-22 (TS-COMP-1)		Soil			Samp	led: 08/2	7/09 18:10			
1-Methylnapthalene	EPA 8270 mod.	1.56		0,00466	mg/kg dry	lx	9090042	09/08/09 13:27	09/15/09 06;20	
2-Methylлаphthalene	in .	1.52		0.00466	П	4	•	н	H.	
Acenaphthene		0.270		0.00466	μ.		п	h	**	
Acenaphthylene	•	ND		0.00466	•	π		•		
Anthracene	•	0.206	_	0,00466	•		91	•	. **	
Benzo (a) anthracene	•	0.0202		0.00466	(t	#1		•	*	
Benzo (a) pyrene	H	0.00777	-	0,00466	Ħ		11	•	' п	
Benzo (b) fluoranthene	*	0.0155		0,00466	. 4	*	N	· H	н	
Benzo (ghi) perylene	•	0.0104		0,00466	. H	•	₩	н	•	
Benzo (k) fluoranthene	•	ND		0.00466			•	•	•	
Chrysene		0.0394		0.00466	**	•	a	P	•	
Dibenzo (a,h) anthracene	•	0.00829	 '	0.00466	*	•	•	•	H	
Fluoranthene	•	0.0233		0.00466	•	,	,	•	7	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	· · · · · · · · · · · · · · · · · · ·	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed .	Notes
SSH0168-22 (T	S-COMP-1)		Se	il		Samp	led: 08/	27/09 18:10	<u> </u>		
Naphthalene		EPA 8270 mpd,	0.114		0,00466	mg/kg dry	lx	9090042	09/08/09 13;27	09/15/09 06:20	
Phenanthrene		b	0.664		0,00466	•	D	41	*	•	
Pyrene			0.110		0,00466	•	*	*	. *		
Surrogate(s):	Nitrobenzene-d5			70.6%		38.8	- 139 %	и		"	
	2-FBP			56.0%			- 132 %	n		N	
	p-Terphenyl-d]4	•		96.8%	-	31.7-	- 179 %	Ħ		H	
SSH0168-23 (T	S-COMP-2)		So	i		Samp	led: 08/	27/09 18:28			
1-Methylnapthalene		EPA 8270 mod	10,5	_	0.0538	mg/kg dry	10x	9090042	09/08/09 13:27	09/15/09 04:55	
2-Methylnaphthalen	e	•	14.2		0.0538	•		49	В		
Acenaphthene		•	0,959		0.0538	н	-	h	•	*	
Acenaphthylene		•	NID	_	0.0538	u	•	7		` •	
Anthracene		h .	1.24	_	0,0538	•	•	*	#	٠.	
Benzo (a) anthracent	:	U	0.144		0,0538	•	۳.	*		н с	
Benzo (a) pyrene	•	in	ND		0,0538	0	**	*	•	n	
Benzo (b) fluoranthe	ne	#	0.108	****	0.0538	н	п	•	•	h	
Benzo (ghi) perylene	•		ND		0,0538	•	н		4		
Benzo (k) fluoranthen	c		ND		0,0538	•	•		•		
Chrysene			0.236		0.0538	•	,		•	•	
Dibenzo (a,h) anthrace	ene	•	ND		0.0538	۳	*	•	•		
Avoranthene		er .	0.379	_	0.0538	•	•	•	•		
luorene		•	1.39	-	0,0538		•	•.	h.	*	
ndeno (1,2,3-cd) pyre	me		ND	_	0,0538	÷		*	7		
Na phthalene		7	1.89	-	0.0538	•	•	•	W	* .	
henanthrene		•	4.21		0,0538		•	*	•	•	
yrene		*	1.05	_	0.0538	r	•	•	*	ь	
Surrogate(s): 1	Nitrobenzene-d5			238%		38.8 -	139 %			" Z	3
	2-FBP			76.0%			132 %	N		"	
	>-Terphenyl-d]4			112%		31.7 -	179 %	N		W	

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11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

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Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

			TestAm	urica opi	OKALIC			·		:
Analyte	Method	Result	MDL*	MRL		Dil	Batch	Prepared	Analyzed	Notes
SSH0168-24 (TS-COMP-3)		So	ii 🚱		Sam	pled: 08/2	27/09 16:40		•	Ri
1-Methylnapthalene	EPA 8270 mod.	0,759 *	_	0.0155	mg/kg dry	2x	9090060	09/10/09 09:59	09/15/09 19:34	
2-Methylnaphthalene	*	0,459	_	0.0155	*	•	•		h	
Acenaphthene	4	0.111	5 –	0,0155	*		*	•	а	A-
Acenaphthylene	4	0.0186	<u> </u>	0,0155		•	*	*		A-
Anthracene	•	0.167	<u> </u>	0,0155	н	•		*	*	A-
Benzo (a) anthracene	•	0.0258		0.0155	•	•	. #	P	4	
Benzo (a) pyrene	•	ND	_	0.0155	*	•	•		•	
Benzo (b) fluoranthene	•	0,0330		0,0155	=	*	H	н	•	
Benzo (ghi) perylene		0.0217	_	0.0155		В		4	•	
Benzo (k) fluoranthene	•	ND	 '	0.0155	•	×	•	•	r	•
Chrysene		0.0733	_	0,0155	#		•	T	ч	
Dibenzo (a,h) anthracene	в	0.0165		0.0155	•		b	"	U	
Fluorenthene	•	0.0557	T —	0.0155	•	*	•	D	ti	A-
Pluorene		0.184	丁 一	0.0155		Ħ	* .	17		A-
Indeno (1,2,3-cd) pyrene	•	0.0155		0.0155		*	e	#		
Naphthalene	Ħ	0.109		0.0155	•	•	•	В	#	
Phenanthrene		0.277 🖫	T —	0,0155	•	•	•	M	и	A-
Pyrene	n	0.275		0.0155	•	•		•	"	
Surrogate(s): Nitrobenzene-45			84.8% .	_	38.8	- 139 %	11			
2-FBP			29.6%		40	- 132 %	W			A-01. Z3
p-Terphenyl-d14	•		104%		31.7	- 179 %	Ħ		n	
SSH0168-25 (GTP4-6.0-082709)		So	il		Samp	led: 08/2	7/09 15:49			
1-Methylnapthalene	EPA 8270 mod	ND		0.00500	mg/kg dry	lx	9090042	09/08/09 13:27	09/14/09 22:31	
2-Methylnaphthalene	"	ND		0.00500	н	•			п	÷
Acenaphthene	н	ND		0.00500			71	-		
Acenaphthylene	. •	ND		0,00500						
Anthracene		ND		0,00500		н	*		•	
Benzo (a) anthracene		ND		0,00500			•	7	*	
Benzo (a) pyrene	н	ND		0,00500			п	#	н	
Benzo (b) fluoranthene		0.00953		0,00500	æ			h		
Benzo (ghi) perylene	₩	ND		0.00500	,		. y.	. • .	₫ .	
Benzo (k) fluoranthene	•	ND	_	0.00500			п			
Chrysene	•	ND		0.00500	•				,	
Dibenzo (a,h) anthracene	N	ND		0.00500			*	•	*	
Divenzo (a,u) ammavene Fluoranthene	n	0.00524		0,00500			•			
riuoraninene Fluorene	H	0.00524 ND	_	0,00500				*	*	
Indeno (1,2,3-cd) pyrene	e	ND		0,00500	ĸ			h		

TestAmerica Spokane

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Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/01/09 10:07

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes		
SSH0168-25	(GTP4-6.0-082709)		Soil Sampled: 08/27/09 15:49										
Phenanthrene		EPA 8270 mod	ND		0,00500	mg/kg dry	lx	9090042	09/08/09 13:27	09/14/09 22:31			
Ругепе			0.00905		0,00500	•		11	н				
Surrogate(s):	Nitrobenzene-d5			63.8%		38.8 -	139 %	n	·	u .			
	2-FBP			69.8%		40 -	132 %	n	•	u			
	p-Terphenyl-d1-l			90.6%		3].7-	179 %	H		"			

TestAmerica Spokane

Randee Decker, Project Manager

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Golder Associates, Inc.

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Avery Landing

Project Number: 07
Project Manager: De

073-93312-03 Doug Morell Report Created; 10/01/09 10:07

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Snokane

 				TestAme	rica Spo	kane					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
SSH0168-01	(GTP1-10.5-082709)		Soi	1		Samp	led: 08/	27/09 09:40			-
PCB-1016		EPA 8082	ND		9.81	ug/kg dry	1x	9090048	09/09/09 09:20	09/17/09 08:02	
PCB-1221		W .	ND		9.81			п	*		
PCB-1232		•	ND	_	9.81	Ħ			•	π	
PCB-1242		•	ND	-	9,81	**	•				
PCB-1248		•	ND		9.81	•	•	•	•	•	•
PCB-1254		*	ND		9,81	H		*	•		
PCB-1260		*	ND		9.81	•		•	, in	H	
Surrogate(s):	TCX			58.2%		27.9	- 154 %	"		"	
	Decachlorobiphenyl		•	41.9%		35 -	- 157%	ti		#	
SH0168-02	(GTP1-13.5-082709)		Soi	1		Samp	oled: 08/	27/09 10:10		•	
CB-1016		EPA 8082	ND		9.60	υg/kg dry	1x	9090048	09/09/09 09:20	09/15/09 02:07	
CB-1221		. н	ND,		9,60	•		н	• .	09/15/09 01:45	
CB-1232			ND		9.60	•		P	н	Ħ	
CB-1242		n	ND		9,60	•			,	(+	
PCB-1248		*	ND		9,60	•	н	H	•	*	
CB-1254	•	*	ND	·	9,60	•	п	n			
CB-1260		•	. ND	_	9.60			•	•	09/15/09 02:07	
Surrogate(s);	TCX		•	78.7%		27.9 -	- 154%	7		n	
	Decachlorobiphenyl			18.9%		35 -	· 157 %	"		W	z
SH0168-03	(GTP3-3.5-082709)		Soil	I		Samp	led: 08/2	27/09 14:15			
CB-1016		EPA 8082	ND		9.91	ug/kg dry	1x	9090048	09/09/09 09;20	09/15/09 02:07	
CB-1221		4	ND		9.91		-	•	•	u	
CB-1232			ND		9.91	77	17		•	н	
CB-1242		•	ND		9,91	b 7	*			, u	
CB-1248			ND		9.91	-	٠.		•		,
CB-1254		*	ND		9.91	n		•		ч	
CB-1260		e	מא		9.91	. •	*	*	ь	M	
Surrogate(s):	TCX			83,0%	;	27.9 -	154 %	н		π	
	Decachlorobiphenyl `			60.0%		35 -	157%	re .		н	

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Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

				TestAme	rica Spo	kane					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-04	(GTP3-5-082709)		Soil			Sam	pled: 08/	27/09 14:35			
PCB-1016		EPA 8082	ND		9,96	ug/kg dry	lx	9090048	09/09/09 09:20	09/15/09 02;52	
PCB-1221		h	ND	_	9.96	*	•	*	H	09/15/09 02:30	
PCB-1232		p	ND	_	9.96	*	•	n	u	*	
PCB-1242		•	ND		9.9 6		•	•	•	•	
PCB-1248		•	ND		9,96		•	•	*	•	
PCB-1254	•	•	ND	_	9.96	*	. •		*	•	
CB-1260		n	ND	-	9.96	Ħ	#	• "	¥	09/15/09 02:52	
Surrogate(s):	TCX		40	5.8%		27.9	- 154 %	W		'n	
	Decachlorobiphenyl		31	.4%		35	- 157 %	"		u	Z
SH0168-05	(GTP3-13.5-082709)		Soil			Sam	pled: 08/	27/09 14:49			
CB-1016		EPA 8082	ND U.	5	9.83	ug/kg dry	lx	9090048	09/09/09 09:20	09/16/09 13:15	
CB-1221		*	ND	_	9.83	ir ir		7	•		
CB-1232		•	ND		9,83	*	•	•	*	•	
CB-1242		#	ND	_	9,83	•		п	•	*	
CB-1248		*	ND		9,83	•	•	n	•	•	
CB-1254		ĸ	ND	_	9.83	*		•	•	•	
CB-1260	<u></u>	.	nd UJ	<i>-</i>	9,83	n	•	17	•	09/16/09 13:38	
Surrogate(s):	TCX	-	71	.3%		27.9	- 154%	11		09/16/09 13:15	
	Decachlorobiphenyl		. 73	.3%		35	- 157%			H	
SH0168-06	(GTP4-2.5-082709)		Soil			Samp	pled: 08/2	27/09 15:40			
CB-1016		EPA 8082	ND		9.70	ug/kg dry	lx	9090086	09/14/09 07:36	09/16/09 20:23	
CB-1221		h	ND	_	9.70	17		n	•	•	
CB-1232			ND	_	9.70	#1		н .		11	
CB-1242		•	ND		9.70	•	•	,		W	
CB-1248		*	ND		9.70		•		11		
CB-1254			ND		9,70		•		•		
CB-1260			18,5		9,70	*	•		•		
Surrogate(s):	TCX			3%		27.9	- 154 %	n		н	
	Decachlorobiphenyl ·		10	1%		3 5 -	157%	**		H,	*

TestAmerica Spokane

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Project Name:

Avery Landing

Project Number. Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

SSH0168-07 (CTP4-8.0-082709) Soil Sampled: 08/27/09 15:59 PCB-1016					1 OUG KING	bpc	7324414					
PCB-1016	Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PCB-1221	SSH0168-07	(GTP4-8.0-082709)		Soi	l		Sam	oled: 08/2	27/09 15:59			
PCB-1212	PCB-1016		EPA 8082	ND	_	9.85	ug/kg dry	lx	9090086	09/14/09 07:36	09/16/09 20:46	
PCB-1242	PCB-1221		U	ND		9.85	•		*	н	* .	
PCB-1248	PCB-1232		U	ND		9.85	•		*		*	
PCB-1254 PCB-1260 ND — 9.85 Surrogate(s): TCX Decachlorobiphnayi SSH0168-09 (GTP5-3.0-082709) Soil Sampled: 08/27/09 16:40 PCB-1016 EPA 8082 ND — 9.84 ND — 124 N	PCB-1242		ĸ	ND		9.85		4	n		•	
PCB-1260	PCB-1248		ь .	ND .		9.85		н	н	н	R	
Surrogate(s): TCX Decachlorobipheapi SSH0168-09 (GTP5-3.0-082709) Soil Sampled: 08/27/09 16:40 PCB-1016 EPA 8082 ND	PCB-1254		Ħ	ND	_	9.85			•		n	
Decachlorobiphenyl S7.4% 35-157%	PCB-1260		•	ND		9,85	`•	*		•	•	
SSH0168-09 (GTP5-3.0-082709) Soil Sampled: 08/27/09 16:40 PCB-1016 EPA 8082 ND	Surrogate(s):	TCX			81.5%		27.9	- 154 %	, н		N	
PCB-1016		Decachlorobiphenyl			87.4%		35 -	- 157 %	n			
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1254 PCB-1260 ND	SSH0168-09	(GTP5-3.0-082709)		Soil	9		Samp	led: 08/2	27/09 16:40			
PCB-1232	PCB-1016		EPA 8082	ND LÍ	1 –	9.84	ug/kg dry	îx	9090086	09/14/09 07:36	09/16/09 21:08	
PCB-1242 " ND	PCB-1221			ND		9.84		*	•			
PCB-1248	PCB-1232			ND		9.84		*	•			
PCB-1254 PCB-1260 ND	PCB-1242		w	ND		9.84	•				*	
PCB-1260 " ND	PCB-1248		M	ND (, .	9,84	*			. в	•	
Surrogate(s): TCX	PCB-1254		•	ND .	· `	9,84	•	.•	٠		•	
Decachiorobiphenyl 23.3% 35 - 157 %	PCB-1260		• ,	ND Y	' —	9.84	•	н	•	. ,		
Decachlorohiphenyl 23.3% 35 - 157 % " " " SSH0168-10 (GTP5-7.0-082709) Soil Sampled: 08/27/09 16:53 PCB-1016	Surrogate(s):	TCX			26.7%		27.9 .	- 154 %			H	Z
PCB-1016 EPA 8082 ND 12.4 ug/kg dry 1x 9090086 09/14/09 07:36 09/16/ PCB-1221 "ND 12.4 """" PCB-1232 "ND 12.4 """" PCB-1242 "ND 12.4 """" PCB-1248 "ND 12.4 """" PCB-1254 "ND 12.4 """" PCB-1256 "ND 12.4 """" Surrogate(s): TCX 68.5% 27.9 - 154 % """"					23.3%		35	157%	п	÷	u	z
PCB-1221 " ND — 12.4 " " " " " " " " " " " " " " " " " " "	SSH0168-10	(GTP5-7.0-082709)		Soil			Samp	led: 08/2	7/09 16:53	•		
PCB-1221 ND — 12.4 PCB-1232 ND — 12.4 ND — 12.4 PCB-1248 ND — 12.4 ND — 12.4 PCB-1254 ND — 12.4 ND — 12.4 PCB-1260 ND — 12.4 ND —	PCB-1016		EPA 8082	ND		12.4	ug/kg dry	lx	9090086	09/14/09 07:36	09/16/09 21:31	
PCB-1242 " ND 12.4 " " " " " " PCB-1248 " ND 12.4 " " " " " PCB-1254 " ND 12.4 " " " " " " PCB-1260 " ND 12.4 " " " " " " " " " " " " " " " " " " "	PCB-1221		н	ND	_	12.4			**	4	ь	
PCB-1248 "ND 12.4 " " " " " " " " " " " " " " " " " " "	PCB-1232			ND		12.4	•		*	*	a *	
PCB-1254 " ND 12.4 " " " " " " " " " " " " " " " " " " "	PCB-1242		,	ND		12.4	•	•	*		н	
PCB-1260 " ND — 12.4 " " " " " " " " " " " " " " " " " " "	PCB-1248		*	ND		12.4	•			•	Ħ	
Surrogate(s): TCX 68.5% 27.9 - 154 % " "	PCB-1254		н	ND	****	12.4			h	*	н	
	PCB-1260	٠	•	ND		12.4		н	я	**	•	
Decachlorobiphenyl 61.3% 35 - 157 % "	Surrogate(s):			6	8.5%				e		"	
		Decachlorobiphenyl		. 6	1.3%		35 -	157%	et .		."	

TestAme	tica S	Smakan

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





1.1922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-11	(GTP6-10-082809)		Soi	1		Samp	oled: 08/	28/09 10:36			
PCB-1016		EPA 8082	ND		9.42	ug/kg dry	lx	9090086	09/14/09 07:36	09/16/09 21:54	
PCB-1221	•		ND		9.42	я	. *	Ħ	a	N	•
PCB-1232		•	ND		9.42		41		Ħ	•	
PCB-1242			ND		9,42		*	•	*	11	
PCB-1248			ND		9.42	•	*	п	*	T	
PCB-1254 .		•	ND		9.42	•		н	•		
PCB-1260	•		ND	·	9,42	•	*		•	"	
Surrogate(s):	TCX			67.9%		27.9	- 154 %	7		н	
	Decachlorobiphenyl			29.5%		35 -	- 157%	u		n' 2	7
SH0168-12	(GTP6-2.5-082809)		Soi	I		Samp	led: 08/2	28/09 10:10			
CB-1016		EPA 8082	ND		9.56	ug/kg dry	lx	9090086	09/14/09 07:36	09/16/09 22:16	
CB-1221		*	ИD		9.56	π	•		•	jt	
CB-1232			ND		9.56	11	•	H	*	II .	
CB-1242		•	ND		9,56	•	•	. *	•	II .	
CB-1248		•	ND	-	9.56	u	•	н	w	н	
CB-1254			ND		9,56	*	•	•	¥	н	
CB-1260		и	ND	_	9.56	•			**	Ħ	
Surrogate(s):	TCX			78.6%		27.9 -	154 %	ıı .		и	
	Decachiorobiphenyi		1	85.5%		35 -	157%	u		н	
SH0168-13	(GTP6-17-082809)		Soil	l		Samp	led: 08/2	28/09 11:11			
CB-1016		EPA 8082	ND		9,88	ug/kg dry	īx	9090086	09/14/09 07:36	09/16/09 22:39	
CB-1221			ND		9.88	•				н	
CB-1232		•	ND		9.88		и	N	ч	M	-
CB-1242			ND		9.88		*	•		n	
CB-1248			ND		9.88	•	"	۳		•	
CB-1254		w	ND		9.88	•	11	•	#	H	
CB-1260		*	ND		9.88	•	7	•	el		
Surrogate(s):	TCX			18.9%		27.9 -	154%	#		н	
	Decachlorobiphenyl			39.8%		35 -	157%	n		и .	

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dit	Batch	Prepared	Analyzed	Note
SSH0168-14	(GTP7-2.5-082809)		Soi	1		Samp	pled: 08/2	8/09 12:50		,	
PCB-1016		EPA 8082	ND	-	9.69	ug∕kg dry	lx	9090086	09/14/09 07:36	09/16/09 23:01	
PCB-1221		•	ND	_	9,69	7	*		•	٠	
PCB-1232		•	ND		9,69	ъ	*	*	•	•	
PCB-1242		•	ND		9.69	*	*	7	H		
PCB-1248		•	ND		9.69	*	•	h	•	•	
PCB-1254	-		ND		9,69	*	* • ·	"	•	•	
PCB-1260		•	ND	_	9,69	#	•	'n	•		
Surrogate(s):	TCX			91.0%		27.9	- 154 %	.,			
	Decachiorobiphenyi			79.5%		<i>35</i> ·	- 157%	•		N	
SSH0168-15	(GTP7-10.0-082809)		Soi	<u> </u>		Samp	pled: 08/2	8/09 13:27			
PCB-1016		EPA 8082	ND	_	9,63	ug/kg dry	īχ	9090086	09/14/09 07:36	09/16/09 23:23	
PCB-1221		4	ND		9.63	**		и	•		
PCB-1232	,		ND		9.63	ď	•	×	•	•	
PCB-1242	-		ND		9.63	11		K	•	1 10	
PCB-1248		•	ND		9.63	•	•			•	
PCB-1254		•	ND		9.63	n	•	•	•	•	
PCB-1260			ND		9,63	"	•	a n		*	
Surrogate(s):	TCX	-		85.9%		27.9	- 154 %	19		fr	
•	Decachlorobiphenyl	•		86.1%		35 -	- 157%	<i>n</i> .		n	
SSH0168-16	(GTP7-18-082809)		Soi	l		Samp	led: 08/2	8/09 13:58			
PCB-1016		EPA 8082	ND	-	9.93	ug/kg dry	ĺπ	9090086	09/14/09 07:36	09/16/09 23:46	•
PCB-1221			ND		9.93		#	•	٠.	*	
PCB-1232		•	NID		9.93	•	•	M		*	
CB-1242		•	ND		9.93	•	•	R	₩	•	
CB-1248	•	•	ND		9.93	•	-	π	•	n	
CB-1254		•	ND		9.93		•	п	*	×	
PCB-1260		n	ND		9.93			н	*		
Surrogate(s):	TCX			97.9%		27.9 -	154%			**	
* •	Decachlorobiphenyl			98.7%		35 -	157%				

TestAmerica Spokane

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18300 NE Union Hill Rd. Suite 200

Project Name: Project Number: **Avery Landing**

Project Manager;

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Polychlorinated Biphenyls by EPA Method 8082

				TestAme	rica Spo	kane					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-17	(GTP2-2.5-082709)		So	iI		Samı	ple d: 0 8/.	27/09 11:40			
PCB-1016		EPA 8082	ND		9.89	ug/kg dry	lx	9090086	09/14/09 07:36	09/17/09 09:56	
PCB-1221		u	ND		9.89	•		٠	•	•	
PCB-1232	•		ND		9.89	n	tr	•	•	* #	
PCB-1242		*	ND		9.89	•	•	11	•	π	
PCB-1248			ND		9,89	•	•	n			
PCB-1254		•	ND	_	9.89	•	*		*		
CB-1260		•	22.3		9.89	*	W	•		•	
Surrogate(s):	TCX			67.4%		27.9	- 154 %	я		п	
	Decachlorobiphenyl			124%		35 -	- 157 %	er		и ,	
SH0168-18	(GTP2-8-082709)		Sei	1		Samp	oled: 08/2	27/09 11:58			
CB-1016		EPA 8082	ND		9,69	ug/kg dry	lx	9090086	09/14/09 07;36	09/17/09 10:18	
CB-1221			ND		9.69	•		•	•		
CB-1232			ND		9.69	•	•	*	¥	•	
CB-1242		н	ND		9.69		*	. •	H	•	
CB-1248		*	ND		9.69	•	•		•		
PCB-1254		•	ND		9,69		•	•	•	•	
CB-1260		•	ND		9,69	*1	•	•	п	н	,
Surrogate(s):	TCX			85.1%		27.9	- 154 %	п		,,	
	Decachlorobiphenyl			75.4%		35 -	- 157%	H		H	
SH0168-19	(GTP2-13-082709)		Soi	1		Samp	leð: 08/2	27/09 17:28			
CB-1016		EPA 8082	ND	-	9.63	ug/kg dry	tx	9090ÒB6	09/14/09 07:36	09/17/09 10:41	
CB-1221			- ND		9,63	•	•	•	#	•	
CB-1232		٣	· ND	 ·	9,63	•	•	•	п	•	
CB-1242		•	ND	_	9.63	•	-	н	, n	•	
CB-1248		T .	ND	••	9.63	•	•	#		•	
CB-1254			ND		9.63	•			ч	#	
CB-1260		. ,	ND		9.63	b	*	*	•		
Surrogate(s):	TĊX			70.1%		27.9 -	154 %	#		n	
	Decachlorobiphenyl			70.4%		35 -	157 %	H		,,	

TestAmerica Spokane

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18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/01/09 10:07

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-20	(GTP1-2.5-082709)		So	il		Sam	pled: 08/	27/09 09:20			
PCB-1016		EPA 8082	ND		9.63	ug/kg dry	1x	9090086	09/14/09 07:36	09/17/09 13:35	
PCB-1221		н	ND	_	9.63	н	*	4)	4	,•	
PCB-1232		n	· ND		9.63	ь .	•	b	•	-	
PCB-1242		•	ND		9.63	•	h	•	h .	•	
PCB-1248		•	ND	٠	9.63		**	•		*	
PCB-1254		H	. ND		9.63	· h		п			
PCB-1260		7	ND	•	9.63	u	•	•	•		
Surrogate(s):	TCX			55.9%		27.9	- 154 %	u		, ,	
	Decachlorobiphenyl			28.1%		3 5 -	- <i>157</i> %	•		"	Z
SSH0168-21	(GTP5-11-082809)		Sei	1		Samp	led: 08/.	28/09 09:37			
PCB-1016		EPA 8082	ND	-	9.59	ug/kg dry	ìx	9090086	09/14/09 07:36	09/17/09 13:58	
PCB-1221			ND		9.59		U	•	*	-	•
PCB-1232		•	ND		9.59	•		*		ņ	
PCB-1242			ND	***	9.59	н		•		•	1 .
PCB-1248		•	ND		9.59	•	•	H	•	ri .	
PCB-1254		•	ND	. —	9.59	н			4	H	
PCB-1260			ND		9.59	ч	•		h	•	
Surrogate(s):	TCX			67.6%	-	27.9 -	154%	н		v	
	Decachlorobiphenyl			50.9%		35 -	157%	tf		H	•
SSH0168-22	(TS-COMP-1)		Soi	<u> </u>		Samp	led: 08/2	27/09 18:10			
PCB-1016		EPA 8082	ND		9.79	ug/kg dry	lx	9090086	09/14/09 07:36	09/17/09 14:21	
PCB-1221		•	ND		9.79	•		•	•		
PCB-1232		. •	ND		9.79	, u		H	•	н	
CB-1242	•	•	ND		9,79		•	Þ	•	W	
CB-1248		*	ND	_	9.79	•	,	H		н	
CB-1254		•	ND		9.79	•	*	•	•	#	
CB-1260		tt .	12.8	•	9,79		•	h	• .	μ	
Surrogate(s):	TCX			78.4%		27.9 -	154%	н		. #	
	Decachlorobiphenyl	•		12.5%		35 -	157%	w	•		

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Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
SSH0168-23	(TS-COMP-2)		So	il		Samı	pled: 08/2	27/09 18:28			
PCB-1016		EPA 8082	, ND	_	9,69	υg/kg dry	1x	9090086	09/14/09 07:36	09/17/09 16:13	
PCB-1221		w	ND		9.69	•	•		•	09/17/09 15:51	
PCB-1232		•	ND		9.69	•	•		•	Ψ.	
PCB-1242		*	ND		9,69	.•	b		•	•	
PCB-1248			ND		9.69	•	•	u .	•	*	
PCB-1254		H	ND		9.69		•	H	¥	ĸ	•
PCB-1260		•	ND	_	9.69	n	•	*	•	09/17/09 16:13	
Surrogate(s):	TCX	· · · · · · · · · · · · · · · · · · ·		68.6%		27.9	- 154%			п	
	Decachlorobiphenyl			18.2%		35 -	- 157%	ti		п	Z
SSH0168-24	(TS-COMP-3)		Soi	1		Samp	oled: 08/2	27/09 16:40			
PCB-1016		EPA 8082	ND		9.76	ug/kg dry	lx	9090086	09/14/09 07:36	09/17/09 16:36	
PCB-1221	•		ND		9.76		•	•	•	09/17/09 16:13	
PCB-1232		•	· ND		9.76	•	n	н	• .	_ 11	
PCB-1242		•	ND		9.76	*	**	. "	•.		
PCB-1248		•	ND		9.76			H ·	•	и	
PCB-1254			ND		9.76	41	77	. 4		n	
PCB-1260		•	26.5		9.76	•	•	•	•	09/17/09 16:36	•
Surrogate(s):	TCX			126%		27.9 -	- 154 %			н	
	Decachlorobiphenyl			10.5%		35 -	- 157%	n		н	Z
SH0168-25	(GTP4-6.0-082709)		. Soi	i		Samp	led: 08/2	7/09 15:49			
PCB-1016	-	EPA 8082	ND	_	9,86	ug/kg dry	1x	9090086	09/14/09 07:36	09/17/09 14:43	4
PCB-1221		# *	ND		9.86	•		•	*	Ħ	
PCB-1232	,		ND		9.86		h	п	•	н	
PCB-1242			ND		9,86	H	U	н	h	•	
PCB-1248		*	ND		9.86	P	•	н	* 1	Ħ	
PCB-1254		•	ND		9.86	7	*		•	-	
PCB-1260		•	ND		9.86	•	π	*	*	•	
Surrogate(s):	TCX			78.0%		27.9 -	154%	"		н	
- **	Decachlorobiphenyl	•		68.4%		35 -	157%			н	

TestAmerica Spokane

Randee Decker, Project Manager

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Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Amilyzed	Notes
SSH0168-01 (GTP1-10.5-0	82709)	Soi	1		Samp	led: 08/2	27/09 09:40			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.13	1.4	mg/Kg dry	10x	50040	09/10/09 17:24	09/14/09 18:22	
Phenol	4	מא	0.10	1.4	u	"	•	h	"	
2-Chlorophenol	4	ND	0.10	1.4	ø	u	4	и	•	
3 & 4 Methylphenol	4	ND	0.076	2.7	*	-	a	ħ	ч	
1,3-Dichtorobenzene	Ð	ND	0,097	0.68	*)1	**	•	•	
N-Nitrosodi-n-propylamine	44	ND	0.13	1.4	1)	h		. •	•	
i.4-Dichlorobenzene		ND	0.043	0,68	•		u		,	
Hexachloroethane	H	ND	0.15	1.4	4		*	e		
Benzyl alcohol		ND	0.13	1.4	P I	D	•	ŢI.	ų	
Dibenzofuran	•	0.56	0.020	1.4			••		•	.1
Nitrobenzene	u	ND	0.39	1.4	n	н	às às	Is .		
1,2-Dichlorobenzene		ND	0.087	0.68	"	•	•	•	4	
2.4-Dinitrotoluene		ND	0.034	1.4	(+	•	×	19	•	
Isophorone	•	ND	0.055	1.4			u	ŋ	न	•
2-Methylphenol	•	ND	0.096	1.4				•		
2-Nitrophenol	n	ND	0.058	1.4	n	•	•1	•	H	
Diethyl phthalate	•	ND	0.20	1.4	п	•		41	•	
2,4-Dimethylphenol	Ö	ND	0.028	1.4	н		и	. 41	*	-
Benzoic acid	p .	ND	и,в	34	*1		v	"	a	
4-Chloro-3-methylphenol	•	ND	11.096	1.4	•)	•	н	и	a	
Bis(2-chloroethoxy)methane	0	ND	0.041	1.4	"	•		**	•	
2,4-Dichlorophenol	u .	ND	0,041	3.4	н	*	*		•	
2-Methylnaphthalene	*	ND	0.031	0,27	#		41	×	a	
1,2,4-Trichlorobenzene	*	ND	0.16	0.68	**	n.	4	U	И	
Hexachlorocyclopentadiene		ND	0.035	1.4	*	41	"		н	
2,4,6-Trichlorophenol	II .	ND	0.054	2.0		b	•	16		
Fluoranthene	н	1.0	0.016	0.27		*	п	ti	и	
Naphthalene	e .	ND	0.030	0.27	**	•	п	il.	*	
2,4,5-Trichlorophenol		ND	0,058	1,4	•	•	ш	n n	n	
4-Chloroaniline		NĐ	0.15	1.4	•		#			
Pyrenc		1.5	0.019	0.27			••	11		
2-Chloronaphthalene	0	ND	0.024	0.27	•		' n '	· " " · .	* * * * * * * * * * * * * * * * * * *	
Butyl benzyl phthalate	•	ND	0.42	1,4	n			n	4	
Hexachiorobutadiene	•	ND	0.12	0.68		"	**	ĮI.	ч	
2-Nitroaniline	ĸ	ND	0.057	1.4	*	#	11	. 4	u	
Dimethyl phthalate		ND	0.057	1,4	*1	•		u		
Acenaphthylene		. ND	0,023	0.27	i-	"	#	и	. В	
2,6-Dinitrotoluene	† I	ND	0.055	1,4	н	p.	II.		μ	

TestAmerica Spokone

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its emircly.

Randee Decker Project Manager

Page 114 of 220



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924-9200 fax: (509) 924-9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Project Manager:

Avery Landing

Project Number: 073-

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-01 (GTP1-10.5-082709)	Soil			Samp	led; 08/	27/09 09:40			
3-Nitroaniline	8270C STD Dry	ND	0.078	1.4 r	ng/Kg dry	10x	50040	09/10/09 17:24	09/14/09 18:22	
4-Chlorophenyl phenyl ether	•	ND	0.677	1.4		*	•	n		
Acenaphthene	•	1.6	0.022	0.27			•	H [']	. "	
2.4-Dinitrophenol	u	ND	0.19	14	*	•			, ,	
Fluorene	н	4.5	0.016	0.27	* .	u	n	•	**	
4-Nitroaniline	u	ND	0.19	1.4	a	н	и	μ	el.	
4-Nitrophenol		ND	2.3	14	u	н		10	4	
4,6-Dinitro-2-methylphenol	*	ND	11,24	14	4	•	•			
N-Nitrosodiphenylamine	F	ND [J]	0.030	0.68	н	•	•		a	•
4-Bromophenyi phenyi ether	×	ND	0.045	1.4	*		•	ıı	10	
Hexacitlorobenzene	μ	ND	0.051	0,68	•	11		и	н	
Pentachlorophenol	U	ND	0.16	1.4	D	ø		-	h	
3.3'-Dichlorobenzidine		ND	0.11	2.7	n	a	n	*	ч	
Phenanthrene		ND	0.028	0.27	u	ı		11,		
Anthracene	q)	ND	0.019	0,27			н .	11	. 11	
Benzo[a]anthracene	W	0.36	0.023	0.34	n		I+	II.	ıí	
Chrysene	u -	1.9	0.019	0.34	ų		н	н	tr.	
Di-n-butyl phthalate	n	ND	0.35	2.7		D		u		
Bis(2-ethylhexyl) phthalate	и	ND	0.57	20	*1	•	-			
Di-n-octyl phthalate	n	0.80	0.018	2.7 U	4 .		••	•		ىد
Benzojalpyrene	D	0.59	0.028	0.41		*	14	ı)	•	
Indeno[1,2.3-cd]pyrene	¥	ND	0.057	0.54	11	p	u	п	71	
Dibenz(a,h)anthracene	*	ND	0.030	0.54	p	u	10	n	н	
Benzo[g,h,i]perylene		ND	0.020	0.34			'n	n		
Carbazole	μ	LU DN	0,058	2,0	*	м	и			*
I-Methylnaphthalene		ND ND	0.024	0.41	n	•	n n	PI	**	
3enzo[b]tiuoranthene	а	ND	0.055	0.27	P	*		•i	ы	
3enzo[k]fluoranthene	н "	ND	0.018	0.34	N	*		h .	b.	
2,2'-oxybis[1-chloropropane]	•	ND	0.091	2.0			#	,,	••	
								• •		****
Surrogate(s): 2-Fluorophenol			0% 0%			145 %	**		" X	
Phenol-d5 Nitrobenzene-d5			0% 0%			149 % 141 %	" a		" X	
3-Fluoro biphenyi			0% 0%			141 % 140 %			" X	
2.4,6-Tribromophenal			0%			143 %	4		" X " X	
Terphenyl-di4			0%			151%	tr		" X	

TestAmerica Spokane

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Randee Decker, Project Manager

Page 115 of 220



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number:

073-93312-03

Report Created;

Redmond, WA 98077

Project Manager:

Doug Morell

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batelı	Prepared	Analyzed	Notes
SSH0168-02 (GTP1-13.5-08:	2709)	Soi	1		Samp	led: 08/2	27/09 10:10			
Bis(2-enloroethyl)ether	8270C STD Dry	ND	0.11	1.1	mg/Kg dry	10x	50040	09/10/09 17:24	09/14/09 18:42	
Phenol	н	ND	0.079	1.1	н		И	P.	41	•
2-Chlorophenol	н	ND	0.079	1.1	II	•	и		ú	
3 & 4 Methylphenol	M	ND	0,060	2.1	п	•	M	ч	н	
1,3-Dichlorobenzene		ND	0,077	0.54	4	41	N		44	
N-Nitrosodi-n-propylamine	M	ND	0.14	· J.I		•	•1	+	U	
1.4-Dichlorobenzene	H	ND	11,134	1).54	•	4	•	*	*1	
Hexachlorgethane	Л	ND	0.12	1.1	-		,,	· a	••	
Benzyl alcohol	Ħ	ND	0.10	i. 1	u	*	u	н	•	
Dibenzofuran	II *	ND	0,016	1.1	H	17	u	-	v	
Nitrobenzene	·	ND	0.31	ı.l	u	41	70	4	n	
1,2-Dichlarobenzene		ND	0.069	0.54	•1 .	4	n	Р .	•	
2,4-Dinitrotoluene	n	ND	0.027	1.1	•	4	n	19	•	
Isophorone	н	ND	0.044	1.1	н	**	и	u		
2-Methylphenol	ėĮ	ND	0.076	1.1	b		N		h	
2-Nitrophenol	el .	ND	0.046	· LJ	, 11	•	N	4	H	
Diethyl phthalate	•	ND	0.16	1.1		n	*	•	41	
2.4-Dimethylphenol		ND	0.023	1.1	-	•	•	*	u	
Benzoic acid	н	ND	7,0	27	•		a	n		
4-Chloro-3-methylphenol	п	ND	0,076	1.t	μ		н	н	, •	
Bis(2-chloroethoxy)methane	н	ND	0.032	1.1	U	••	. #	-	4	
2.4-Dichlorophenol	ч	ND	0.032	- 1.1	μ	**	•	•	1)	
?-Methy Inaphthalone	•	ND	0.025	0.21	u			*	ď	
1.2.4-Trichlorobenzene	*)	ND	0.13	0.54	M	*	н		a	
l·lexachlorocyclopentadiene	n	ND	0.028	1.1	*1	w		ti	н	
2,4.6-Trichlorophenol	in	ND	0.043	1.6	n	μ	н	u	P	
Fluoranthene	и	0.13	0.073	0.21	•	"				
Naphthalene		ND	0.024	0,21		•	•	•	•	
.4.5-Trichlorophenol	•	ND	0.046	1.1	N	•		*	••	
-Chloroaniline	ÞI	ND	0.72	1.1	4	н	4	•	ii .	
yrene	я .	0.19 J	0.015	0.21		•4		٠	•	
-Chloronuphthalene		ND	0.019	0,21	n		. 4	• •	•	
Buty! benzyl phthainte	U	ND	0.33	1.1			4	•	"	
lexachlorobutadiene	и	ND	0.098	0.54		"	. "	,,	н	
!-Nitroaniline	•	ND	0,045	1.1	91	n	4	. •	"	
Dimethyl phthalate	*	ND	0,045	1,1	•	U	4		ન	
Acenaphthylene	· .	ND	0.017	0.21			•1	"	u	
.6-Dinitrotoluene		ND	0.044	1,1	•	п	,		-	

TestAmerica Spokane

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Randee Decker, Project Manager

Page 116 of 220



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99205-5302 ph: (509) 924,9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Avery Landing Project Name:

073-93312-03 Project Number: Project Manager:

Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-02 (GTP1-13.5-082709)		Soil			Samı	pled: 08/	27/09 10:10			
3-Nitroaniline	8270C STD Dry	ND	0.062	1.1	mg/Kg dry	10x	50040	09/10/09 17:24	09/14/09 18:42	
4-Chlorophenyl phenyl ether		ND	0,067	1, 1			н	я	4	
Acenaphthene	(4	ИD	0.017	0.21	**	•1	н	"	н	
2.4-Dinitrophenol	41	ND	0.13	1)	n		•	•	4	
Fluorenc	*	0.38	0.073	0.21	*	4		h	u	
4-Nitroauiline	4	ND	0.15	1,1	•	•	u	н	4	
4-Nitrophenol	н	אס י	1.8	11	•	*	•	-	16	
4,6-Dinitro-2-methylphenol	ų.	ND	0.19	11		•	•	۰	n	
N-Nitrosodiphenylamine	*	ND UJ	0.024	0.54	•	*			*	•
4-Bromophenyl phenyl ether		ND	0.035	1.1	•	ÞI	u	u	**	,
Hexachlorobenzene	R	ND	0.047	0.54	4	u	a	**	u	
Pentachlorophenol		ND	0, 13	1.1		"	•	u	•	
3,3-Dichlorobenzidine	•	ND	0.085	2.1	•	-	•	•	a	
Phenanthrene	*	ДN	0.023	0.21	•		4	•1	ıı	
Anthracene	υ	ND	0.015	0,21	•		Đ		•	
Benzo a onthracene	*	0.062	0.018	0.27	-	e1	- d -		**	
Chrysene .	4	0.34	0.015	0.27	•		ĮI.	1)	"	
Di-n-butyl phthalate		ND	0.28	2.1	*	"	•	hy	45	
3is(2-ethylhexyl) phthalate	h	ND	U.45	16	ь	**		*		
Di-n-octyl phthalate	•	ND	0.014	2.1		0	•		Ц	
3enzoju]pyrene		0.057	0.023	0.32	19	u	ø	•	в	
ndeno[1,2,3-cd]pyrene	Р	מא	0.045	0.43			4	μ.		
Dibenz(a,h)anthracene		ND	0.024	0.43	**			4	11	
Benzo[g,h,i]perylene		ND	0.016	0.27	•	4	,,	•		
Carbazole		ND ILJ	0.046	1.6	н	10		. 4	-	•
l-Methylnaphthalene	•	ND	0.019	0.32	•		41	. 4		
3enzo[b]fluorenthene	•	ND	0.044	0.21	••	-	4		•	
3enzo[k]fluoranthene		ND	0.014	0,27	**	n		u	*	
2,2'-oxybis[1-chloropropane]	य	ND	0.072	1.6	**	н	•	ĸ	Ħ	
Surrogate(s): 2-Finorophenol		,	0%		36 -	145 %	"			,
Phenol-d5			0%		38 -	149 %	n		" x	
Nitrobenzene-d5			0%			141%	r)		" x	
2-Fluorobiphenyl			0%			140%	*		" x	
2,4,6-Tribromophenal			096 			143 %	"		" X	
Terphenyl-d14			0%		42 -	151%	n		" X	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody electment. This conjusted report must be reproduced in its entirety.

iand Stor Randee Decker, Project Manager

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number:

073-93312-03

Report Created:

Project Manager: Doug Morell

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL 1	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-03 (GTP3-3.5-082709)	Soi	il		Samp	led: 08/2	7/09 14:15			
Bis(2-chloroethyl)ether	8270C STO Dry	ND	0.0022	0.022 mg	⊈Kg dry	lx	50040	09/10/09 17:24	09/14/09 19:03	
Phenol	*	ND	0.0016	0.022	*	**	a	"	u	
2-Chlorophenol	•	ND	0.0016	0.022	•	"	•1	•		
3 & 4 Methylphenol	**	ND	0,0012	0.044	•	'n	в	30	D .	
1,3-Dichlorobenzene	**	ND	0.0016	0.011	-		49	**	•	
N-Nitrosodi-n-propylamine	4	ND	0,0027	0.022		"	41		•	
1,4-Dichlorobenzene	11	ND	0,00070	0.011		к .	"	и	" .	
Hexachioroethane	n	ND	0.0024	0.022		*	u	и		
Benzyl alcohol	4	ND	0.0021	0.02.2	u	ħ	и	и	**	
Dibenzofurun	•	0.00085	0.00033	0.022			н		u	•
Nitrobenzene	н	ND	0,0063	0.022	•	n	•	•	ч	
I,2-Dichlorobenzene	•	ND	0.0014	110.0		ņ	*	•	•	
2,4-Dinitrotoluene	•	ND	0.00055	0.022	-	"	ч	u	N	
Isophorone	a i	ND	0.00089	0,022		•	(1	. "	и .	
2-Methylphenol	н	ND	0.0015	0.022	h	*	ú	₩.	. •	
2-Nitrophenol	P	ND	0.00094	0.022	н	-	•1	**	4	
Diethyl phthalate	u	0.0030	0.0033	0.022	**	•	•	7	B I	المسائسين
2.4-Dimethylphenol	• .	ND	0.00046	0.022	•	"	11	0		-
Benzoic acid	b	ND	0.14	. 0.55			n	n	6 3	
4-Chloro-3-methylphenol	e i	ND	0,0015	0.022		н	. п	μ	ii .	
Bis(2-chloroethoxy)methane	п	ND	0,00065	0.022	п	п	II.	le .	U	
2.4-Dichloropheno	u	ND	0,00065	0.022	н	••	•		й	
2-Methykiaphthalene	u	0.0023	0,00050	0.0044	11	u*	" .		. N	T.
1.2.4-Trichlorobenzene	4.	ND	0.0026	0.011	. •		"	•	D	
Hexachlorocyclopentadiene	i#	ND	0,00057	0,022	41		u	u	n	
2.4.6-Trichlorophenol	n	ND	0.00087	0.033	•	В	μ	u	й	
Fluoranthene	•1	0.015	0.00026	0.0044	•	.,		N	bi .	
Naphthalene	•1	0.0012	0.00048	0.0044	u			19	H	J
2.4.5-Trichlorophenol	II .	ND	0.00094	0.022		"	**	••	*	
4-Chloroaniline	II .	ND	0.0024	0.022	10	ı	•	**	e 1	
Pyrene		0.013	0.00031	0.0044	H .	P	11	ч	**	
2-Chloronaphthalene	#	ND	0,00039	0.0044	"	4		the property of	· • • • • • • • • • • • • • • • • • • •	
Butyl benzyl phthalate	u u	0.014	0.0068	0.022	*1	•	. .	•	•	J
Hexachlorobundlene	b	ND	0.0020	0.011	•	•	,,	**	•	
2-Nitroaniline	D	ND	0,00092	0.022	*	0	н	•	•	
Dimethyl phthalate	п	ND	0,00092	0.022	•	"	*	i)	•	
Acenophthylene	ii.	ND	0.00035	0.0044	н	н		o	. •	

TestAmerica Spokane

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Randee Decker, Project Manager

Page 118 of 220



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-03 (GTP3-3.5-082709)		Soil	l		Samp	led: 08/2	27/09 14:15			
3-Nitroaniline	8270C STD Dry	ND	0.0013	0.022 m	g/Kg dry	lĸ	50040	09/10/09 17:24	09/14/09 19:03	
4-Chlorophenyl phenyl ether	ы	ND	0.0012	0,022			-		u	
Acenaphthene	6	0.00082	0.00035	0,0044	9 1	**	•		h	
2.4-Dinitrophenol	4	ND	0.0031	0.22		•	b	и.		
Fluorene	"	0.0014	0,00026	0.0044	•	n		•		
4-Nitroaniline	* •	ND	0.0031	0.022	N;	"	•	. •	•	
4-Nitrophenol	Ü	ND	0.037	0.22	b ₁	=1		U	*	
4,6-Dinitro-2-methylphenol	q	ND	0.4039	0.22	٠ .	n n	р	(1	D	
N-Nitrosodiphenylamine	w	ND (1	0.00048	0.011	•		"		a	*
4-Bromophenyl phenyl ether	•	ND	0.00073	0.022	•	*	•	44		
Hexachlorobenzene	в	ND	0,00083	0.011		•	n	u	u	
Pentachlorophenol	u	ND	0.0026	0.022	N			•	a .	
3,3'-Dichlorobenzidine	ч	ND	0.0017	0.044	"		r	11	*	
Phenanthrene	и	0.0092	0.00046	0.0044	ъ .	79				
Anthracene	ėl.	0.0016	0.00031	0,0044	d				p	
Benzojajanthracene	41	0.0073	0.00037	0.0055				•	n	
Chrysene	•i	0.010	0.0003 [0.0055		81		я		
Di-n-butyl phthalate	m .	0.0080	0.0057	0.044 EL		4	*	*	-	المسهند
Bis(2-ethylbexyl) phthalate	u	0.12	0.0092	0.33						
Di-n-octyl phthalate	19	ND	0.00028	0,044	P	-				
Benzoja pyrene	п	0.0065	0.00046	0.0065		11	4	•	ь	
Indeno[1,2,3-ed]pyrene	a	0.0041	0.00092	0.0087			*	v	4	J
Dibenz(a,h)anthracene	•	0.0014	0.00048	0.0087	×		п .	n n	, ii	
Benzo[g,li,i]perylene	•1	0.0066	0,00033	0.0055	*	D	*1	н		
Carbazole	u	0.0015 J	0.00094	0.033			4	a	4	.1, +
1-Methylnaphthalene	0	0.0010	0.00039	0.0065			*	4		.i
Benzo[b]fluoranthene	И	0.0099	0,00089	0.0044		v	u	•		
Benzo[k]fluoranthene	N	0.0028	0.00028	0.0055	v	Р	+	ь		J
2.2'-oxybis[1-chloropropane]	u .	ND	0.0015	0.033	•	h	F	H	n	
Surrogate(s): 2-Fluorophenol	'		 84%		36.	145 %	 .		#	
Phenol-d5			71%			149 %	#		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Nitrobenzene-d5	-		84%			141%	u		n	
2-Fluorobiphenyl			79%			140 %	"	•		
2,4.6-Tribromophenol			94%		28 -	143 %	H		u	,
Terphenyl-d14	•		82%		42 -	151%	II.		W	

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dii	Batch .	Prepared	Analyzed	Notes
SSH0168-04 (GTP3-5-082709)		So	i)		Samp	led: 08/2	7/09 14:35			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0027	0,027	mg/Kg dry	lx	50040	09/10/09 17:24	09/14/09 19:23	
Phenol	u	ND	0,0020	0.027	4		**	*	'n	
2-Chlorophenol	4	ND	0.0020	0.027	H	n	ú	н	•	
3 & 4 Methylphenol	D .	0.066	0.0015	0.055	1+	11	16	H	*	
1,3-Dichlorobenzene	**	ND	0.0020	0.014		*		*	**	
N-Nitrosodi-n-propylaminé	•	ИD	0.0026	0.027		•	-	•	n	
1,4-Dichtorobenzene	D	ND	0,00087	0.014	` а '	*		•	u	
Hexachloroethane	ů.	ND	0.0030	0.027	to.	4	-	ч		
Benzyl alcohol	p	· ND	0.0026	0.027	*			4	Ŋ	
Dibenzofuran	"	ND	0.00041	0.027	11		Þ		u	
Nitrobenzene	N	ND	0.0079	0.027	U	•	n	49	•	
1,2-Dichtorobenzens	•I	ND	0,0017	0.014	u		ıı .	. ч	•	
2,4-Dinitrotoluene	41	ND	0.00068	0.027		0	u	•	μ	
Isophorone	, n	ND	0.001)	0.027	11	4		41	ıl	
2-Methylphenol	H	0.0050	0.0019	0.027		-	и		4	.1
2-Nitrophenol	u	ND	0.0012	0,027			u	h	· 10	
Digitiyl phthalate	н	ND	0,0041	0,027	4	•	•	•	n	
2.4-Dimethylphenol		ND	0.00057	0.027	•		•	*	a	
Benzoic soid	,**	ND	0.18	82.0		u	•			
4-Chloro-3-methylphenol		ND	0.0079 -	0.027		۳	10	*	**	
Bis(2-chloroethoxy)methane	и	ND	0,00082	0.027				.	**	
2,4-Dichlorophenol		ND	0.00082	0.027	11	4	4	н	lu .	
2-Methylasphthalene		0.013	0.00063	0.0055	31	ja	ч	4		
1,2,4-Trichlorobenzene	*1	ND	0.0033	0.014	u			н	H	
Hexachlorocyclopeniadiene	u	ND	0.00071	0.027	•		**	*1	-	
2.4.6-Trichlorophenol	11-	ND	0.001 (0,041	•		ч		и	
Fluorantheac	ri	0.077	0,00033	0.0055	*		и	h	Pi	
Naphthalene		0.0065	u.00060	0.0055	-	#1		4.	n	
2.4.5-Trichlorophenol	D	ND	0.0012	0,027	-	10	**	n	u	
4-Chloroaniline	h	ND	0.0030	0.027	•	4		•	•	
Pyrene		0.094	0.00038	0.0055	*	"	· n	4		
2-Chloronaphthalene		ND	0.00049	0.0055	[*] 4	ň	*	. н	11	-
Butyl benzyl phthalate	•1	ND	0.0085	0.027	l#	ø	P	¥	e	
Hexachlorobutadiene	•	ND	0.0025	0.014	,	p		•	• .	
2-Nitroaniline		ND	9.0071	0.027	P			**	•	
Dimethyl phthalate.	0	ND -	0.0011	0,027		-	-		p.	
Acenaphthylene	u u	ND	0.00044	0.0055	ń		n	q	н	
2,6-Dinitrotoluene		ND	0.0011	0,027	•	ŋ			*	

TestAmerica Spokane

The results in this report apply to the stoughes analyzed in accordance with the chain of custady document. This analytical report must be reproduced in its embrey.

Randeo Decker, Project Manager

Page 120 of 220



Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd, Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Cremed:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dii	Batch	Prepared	Analyzed	Notes
SSH0168-04	(GTP3-5-082709)		Soil			Samj	pled: 08/2	27/09 14:35			
3-Nitroaniline		8270C STD Dry	ND	0,0016	0,027	mg/Kg dry	lx	50040	09/10/09 17:24	09/14/09 19:23	
4-Chlorophenyl pl	henyl ether	n	ND	0,0016	0,027		ď	11	a		
Acenaphthene		8)	ND	0,00044	0,0055	p•	rí	u	u	n	
3.4-Dinitrophenol		U	ND	0,0038	0.27	"	**			4	
Fluorenc			0.012	0.00033	0.0055	**					
4-Nitroaniline		**	ND	0.0038	0.027	•	H		"		
4-Nitrophenol			ND	0.046	0.27	49	•1	•	•	•	
4.6-Dinitro-2-met	ıylpinenol	H	ND	0,0049	0.27		P.		D	•	
N-Nitrosodiphenyl	lamine	u	ND H.	0.00060	0.014	16	*1	11	u	17	*
4-Bromophenyl ph	enyi ether		ND	0.00090	0.027	••	•	•	•1	"	
Hexachlorobenzen	ie .	ν	ND	0.0010	0.014	•	11	*	n	*	
Pentachlorophenol	l	μ .	ND	0.0033	0.027	II		ı	u	"	
3,3'-Dichlorobenzi	dine		ND	0,0022	0.055		•	10		ti	
Phenauthrene		н	0.083	0,00057	0.0055		ь	•	•	4	
Anthracene		*	ND	ù,00 03 8	0.005\$		u	•	· ·	v	•
Benzojajanthrace	ne	34	0.049	0.00046	0.0068	••	-	"			
Chrysene		. "	0.10	0,00038	0.0068	*		. •			
Di-n-butyl phthalat	te		ND	0,0071	0.055			. 11	ч,	h	
Bis(2-ethylhexyl) [ph tha late		0,30	0.011	0.41	**		16	*	4	3
Di-n-octyl phthalat	e		ND	0.00035	0.055	A I	•	•		*	
Benzojajpyrene		и	0.037	0,00057	0.0082	*		•	u	h	
Indenoj1,2,3-cd]p;	yrene		0.018	0.0017	0,011 .	n	•	u	•1	-	
Dibenz(a,h)anthra	cene	ži.	0.0081	0.00060	110.0	н	•	41	1)	*	.1
Benzo g,h,i[peryle	ne	41	0.021	0,00041	0.0068		и	d	н	4	
Carbazole		el .	CHON	0.0012	0.041	U		u	H	•	*
1-Methylnaphthal	ene `	4	0.012	0,00049	0.0082	•	t•		μ.	•	
Benzo[b]fluoranth	ene	*	0.054	0,0011	0.0055		•	0		49	
Benzo[k]fluoranth	enc		0.011	0.00035	8800.0	44			*	4	
2,2'-oxybis[1-chlore	оргорапе]	•	ND	0.0018	0.041	'n	4		#1	ti	
Surrogate(s):	2-Fluorophenal	•		88%		36 -	145 %	"		"	
	Phenol-dS	-		75%		38 -	149 %			*	
	Nitrobenzene-d5			82%			141 %	ш		it.	
	2-Fluorobiphenyl			70%			140 %			* .	
	2,4,6-Tribromophenol			99%			143 %	# #		u u	
•	Terphenyl-d14			91%		42 -	151%	"		**	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number:

073-93312-03

Report Created:

Project Manager: Doug Morell 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-05 (GTP3-13.5-0827	709)	So	il		Samp	oled: 08/2	7/09 14:49			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0,0026	0,026 m	g/Kg dry	l _x	50040	09/10/09 17:24	09/14/09 20:25	
Phenol	•	ND	0.0019	0.026		•)			u	
2-Chlarophenol	•	ND	0.0019	0,026	u	п	*	•	a	
3 & 4 Methyliphenol	*	ND	0.0015	0,052	•	r.	•	•	4	
1,3-Dichlorobenzene	•	ND	0.0019	0.013	••	+	. "			
N-Nitrosodi-n-propylamine	a	ND	0.0025	0,026	•	•1	44	•	•	
1,4-Dichlorobenzene	D	ND	0.00083	0.013		•	q	a	4	
Hexachloroethane	ū	ND	0.0029	0.026	v	4	4		*	
Benzyl alcohol	и	ND	0.0025	. 0.026	•1	d	4	n	и	
Dibenzofuran	ч	ND	0.00039	0.026		*		U	ď	
Nitrobenzene	•	ND	0.0075	0.026	"	,	0	•	*	
1.2-Dichlorobenzene	H	ND	0.0017	0.013	"	-	*1	# I	ıl	
2,4-Dinitrotoluene	•	ND	0.00063	0.026	el	•	P	n	a	
Isophorone	a :	ND	0.00/1	0.026	n	•		0	I +	
2-Methylphenol	•	ND	0.0018	0.026		•	u		u u	
2-Nitrophenol	*	ND	0.0011	0.026		•	•	H	n	
Diethyl phthalate	u	0.0069	0.0039	0.026 U		14	•	(1	a '	J, E
2.4-Dimethylphenol	**	ND	0.00055	0.026	u u		a	N	ji ·	
Benzoje acid	11	ND	0.17	0.65	н	•	•	#	р	
4-Chloro-3-mothylphenol	ti .	ND	0.0018	0.026	*	11	•	,,	•	
Bis(2-chloroethoxy)methane		ND	0,00078	0.026			4	•	и	
2,4-Dichlorophenol		ND .	0,00078	0.026	п	•	**	(1	н .	
2-Methylnaphthalene	11	ND	0.00060	0.0052	а	70	#	n	н	
1.2.4-Trichlorobenzene	u	ND	0.0031	0,013	*	•		ii	*	
Hexachlorocyclopentadiene	N	ND	0.00068	0.026	•	11	•		**	
2,4,6-Trichlorophenol	W 1	ND	0.0010	0.039		**	•	•	•	
Fluoranthene	и	0.0021	0,00031	0.0052	by.	7	P	·	-	
Naphthalene	•	ND	0,00057	<u> 1.0052</u>		-	R	49	· *	
2.4.5-Trichlorophenol	11	ND	0.001 /	0.025	M		н	U	•	
4-Chloroaniline		ND	0.0029	0.026	p	•	H			
Pyrene	u	0.0046	0.00036	0.0052	•		'n	II .	•	J
2-Chioronaphthalene		ND	0.00047	0.0052	и	ú ···-	W 19	a · · ·		
Butyl benzyl phthalate	ū	ND	0,0081	0.026	**	•	•	. н	62	
Hexachlorobutadiene	u	ND	0,0024	0.013	4	P .	•	•1	(t	
2-Nitroaniline	н	ND	0.0011	0.026	n		4			
Dinethyl phihalate		מא	9,0077	0.026	*			**	•	
Accnaphthylene	п	ND	0.00042	0.0052	*1	•	**	μ	a	
2.6-Dinitrotoluene	в.	ND	0.0011	0.026	h	*		le .	u u	

TestAmerica Spokene

The results in this report apply to the samples analyzed in accordance with the chain of castudy document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager

Page 122 of 220



SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: 073-93312-03

Project Manager:

Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-05 (GTP3-13.5-082709)		Soi	il		Sam	pled: 08/2	7/09 14:49			
3-Nitroaniline	8270C STD Dry	מא	0.0015	0.026 г	mg/Kg dry	İx	50040	09/10/09 17:24	09/14/09 20:25	
4-Chlorophenyl phenyl ether	•I	ND	0,0015	0.026		и	н	ä	н	
Acenaphthene	ь	ND	0.00043	0.0052		*	n	n	н	
2.4-Dinitrophenol	li .	ND	0.0036	0,26	"	-	a	п	•	
Fluorene	н	ND	0.00031	0.0052	*1	"	**	u	b	
4-Nitroaniline	•	ND	0.0036	0.026	4	*	46	•		,
4-Nitrophenol	**	ND	0.044	0,26			n n	, D		
4,6-Dinitro-2-methylphenol	lu	ND	0,0047	0.26	н	4	H	u	u	
N-Nitrosodiphenylamine	п	ND N	J 0.00057	0.013	*	4	•		н	•
4-Bromophenyl phenyl ether	•	ND	0.00086	0.026			n	•		
Hexachlorobenzene		ND	0.00099	0.013	μ		н	U	P	
Pentachlorophenol	**	ND	0.0031	0.026	٠	н		el	μ	
3,3'-Dichlorobenzidine	· ·	ND	0.0027	0.052	*1		. "	•1	•	
Phenanthrene	н	ND	0,00055	0,0052	þi	*1		μ	*	
Anthracene	-	מא	0.00036	0.0052	11	11	*	n	•	
Benzo[a]anthracene	•	ND	0,00044	0.0065	*	41	•1	₩	•	
Chrysene		0.012	0.00036	0.0065		*		D	¥	
Di-n-butyl phthalate	•	0.0091	0.0068	0.052	("	-	•		-	الهلسير
Bis(2-ethylhexyl) phthalate		ND	0.011	0,39	. "		•		•	
Di-n-octyl phthalate		ND	0.00034	0.052	*1	•	•	•	la .	,
Вепхо[а]ругеле	vi	ND	p, aan 55	0.0078	И		μ	~'h	*	
Indeno[1,2,3-cd]pyrene	5	ND	0,0011	0.010	P.	п	п	lı	4	
Dibenz(a,h)anthracene	ti .	ND	0,00057	0.010	н	"	•	Ħ	•	
Benzo[g,h,i]perylene	٠.	ND	0.00039	0.0065		**		н	*	٠.
Carbazoje	•	ND U	J 0.0011	0.039	D	•		4		•
I-Methylnaphthalene	D	ND	0.00047	0,0078	u	-	•	*	"	
Benzo[b]fluoranthene	н	ND	0.0011	0.0052	•	•	n .	a	•	
Benzo[k]fluoranthene	**	ND	0.00034	0.0065	n	4		þ	u	
2.2'-oxybis[1-chloropropane]		ND	0.0017	0.039	u	16		N	•	
Surrogate(s): 2-Fluorophenol		* * * * * * * * * * * * * * * * * * * *	81%		36-	145 %	n			
Phenol-d5			81%	•		- 149 %	n .		n	
Nitrobenzene-d5			82%						,,	
2-Fluorobiphenyl			79%		42 -	140%	"			
2.4.6-Tribramophenol			98%			143%	" .			
Terphenyl-d14			81%		42 -	151%	H .		. "	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the claim of castody document. This analytical report man be reproduced in its emissey.





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: 073-93312-03

Project Manager:

Doug Moreli

Report Created:

10/01/09 10:07

$Semivolatile\ Compounds\ by\ Gas\ Chromatography/Mass$

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-06 (GTP4-2,5-0827	(09)	Sc	oil	San	pled: 08/2	27/09 15:40			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0021	0.021 mg/Ky dry	ix	50D4D	09/10/09 17:24	09/14/09 20:46	
Phenol	0	ND	0.0015	0.021 "	"	h	•	41	
2-Chlorophenol	ė.	ND	0,0015	0.021 "	4	•	4	•	
3 & 4 Methylphenol	16	ND	0.0012	0.042 *			*	*	
1,3-Dichlorobenzene	4	סא	0.0015	0.010 "	**		+1 ,	H	
N-Nitrosodi-n-propylamine	n	ND	0.0020	0.021 "	*	•	•	u	
1,4-Dichlorobenzene	"	ND	0.00067	0,010 "	••	b	4	•	
Hexachloroethane	и	ND	0.0023	0.021 "	41		•	n	
Benzyl alcohol	. 4	ND	0.0020	0.021 "		*		и	
Dibenzofuran	1	ND	0.00031	0.021	40	-	ĮI.	*	
Nitrobenzene		ND	0.0061	0.021 "	"	ıı	•1	**	
1,2-Dichlorobenzene	н .	ND	0.0013	0.010 "		*	•	rt	
2,4-Dinitrotoluene	4)	ND	0.00052	0.021 "		н	*		
Isophorone	p	ND	0.00086	0.021 "	n	ıı	*	N	
2-Methylphenol		ИĎ	0.0015	0.021 * .		ч	14	•	
2-Nitrophenol	4	ND	0.00090	. 0.021 *		*	н	4	
Diethyl phthalate	u	0.0030	0.0031	0.021 LL "	**		U	-	سنلسطند
2.4-Dimethylphenol	4	ND	0.00044	0.021	n n	(1	41	el .	•
Benzoic acid	н	0.15	0.14	0.52 "	T T	"	**	_ ai	.1
4-Chloro-3-methylphenol	•	ND	0.0015	0.021 "	10	•	10	•	
Bis(2-chloroethoxy)methane	. *	ND	0.00063	0.021 "		"	и	11	
2.4-Dichlorophenol	W	ND	0.00063	0.021	10			•	
2-Methylnaphthalene	4	0.015	0.00048	0.0042	•1	u	ır	•	
1,2,4-Trich]orobenzene	•	ND	0.0025	0.010 "	п	H	41	· p	
Hexachlorocyclopentadiene .		ND	0.00054	0.021 "	•1	4	**		
2.4.6-Trichtorophenol		CIM	0.00084	0.031 "	и .		**	*	
Fluoranthene		0.0082	0.00025	0.0042 "	,,	*	*	4	
Naphthalene	•	0.0076	0.00046	0.0042 "	•	1)	4s	a	
2.4.5-Trichtorophenol	h	ND	0.00090	0,021 "	*	"	n r	•	
4-Chiorosniline	•	ND	0.0023	0.02) "		•	•	v	
Pyrene		0.0099	0.00029	0.0042 "			•		
2-Chloronaphthalene	•	ND	0.00038	0.0042 *	•			H	
Butyl benzyl pluhalate	w)	ND	0.0065	0.021 "	н	•	п		
l-iexachlorobutadiene	11	. ND	0.0019	0,010 "		•		"	
2-Nitroaniline		ND	0.00088	0.021 *	•	*	h	В	
Dimethyl phthalate		ND	0.0008N	0.021 "	U	*	u		
Acenaphthylene	D	0.0025	0.00033	0.0042 "			19	· 11	J
2.6-Dinitrotoluene	H	ND	0,00086	0,021 *		11	ч		

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custably document. This analytical report must be reprenticed in its entirety.





5PDKANE, WA 11922 E. 15T AVENUE 5POKANE VALLEY, WA 99206-5302 ph: (509) 924-9200 fax: (509) 924-9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

Test America Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-06 (GTP4-2.5-082709	9)	So	il		Samp	led: 08/2	7/09 15:40			
3-Nitroaniline	8270C STD Diy	ND	0.0012	0.021	mg/Kg d₁y	lx	50040	09/10/09 17:24	09/14/09 20:46	
4-Chlorophenyl phenyl ether	*	מא	0.0012	0.021		и	11		•	
Acenaphthene	•	ND	0,00033	0.0042	•	**	*	**	u	
2,4-Dinitrophenol	•	ND	0.0029	0,21	*	*			4	
Fluorene	U	ND	0.00025	0.0042	#1		•		9L	
4-Nitroaniline	m .	ND	0,0029	0,021	b		*	n	ti.	
4-Nitrophenol	· 4	ND	0.036	0,21	U	*	#	a	*	
4,6-Dinitro-2-methylphenol	ir .	ND	0.0038	0.21	•	•		•	н	
N-Nitrosodiphenylamine		ND ()	J0.00046	0.010		Ð	**	P	li	+
4-Bromophenyl phanyl ether	W	ND	0.00069	0.021		a			· N	
Hexachlorobenzene		ND	0,00079	0.010	и	*	a	•	H	,
Pentachlorophenol	#I	ND	0.0025	0.021	H			•	и	
3,3'-Dichlorobenzidine	ji.	ND	0.0017	0.042	"	0	h	ıı	**	
Phenanthrene	in .	0.0064	0.00044	0.0042	•			•		
athracese	*	0.0031	0.00029	0.0042		**	q	41	"	
Beuzolajanthracene	••	0.0055	0.00036	0,0052			•	64	*	
Chrysene	U	0.0081	0,00029	0.0052	•		4	*)		
Di-n-butyl phthalate	"	0.010	0.0054	ۇ 0.042	<i>ا</i> "			•	•	بغر
3is(2-ethylhexyl) phthalate	n	ND	0.0088	0.31	•				*	-
Di-n-octyl phthalate	•	ND	0.00027	0.042	4	-		N	н	
Benzo[a]pyrene	u	0.0071	0.00044	0.0063	h	41			•	
ndeno 1,2,3-cd]pyrene	•	0.0073	0.00088	0.0084	n		.00	•		
Dibenz(a,h)anthracene	II.	ND	0.00046	0.0084	4	•				
Benzolg,k,ilperylene	•	0.016	0.00031	0.0052	"			4	•	
Carbazole	#	C 8100.0	0,00090	0.031	•	•	u	*	U	J,
-Methylnaphthalene	н	0.0086	0.00038	0,0063	4	•	и		a	
euzo] b] Auoranthene	II .	0.0099	0.00086	0.0042	h.	•	•	11	*1	
Senzo[k]fluoranthene	u	0.0023	0.00027	0,0052	-			**	•	
.2'-oxybis[i-chloropropane]	**	ND	0.0014	1 20.0	u	v	•	•		
Surroyate(s): 2-Fluorophenol			63%		36-	145 %	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		**	
Phenol-d5			70%			149%	**		••	
Nitrobenzene-d5			85%		38 -	141 %	r		. н .	
2-Fluorobiphenyl			78%			140 70	"		"	
2,4,6-Tribromaphen	ol .		101%			143 %	11		"	
Terphenyl-d14			87%		42	151%	"		u	

Test America	Spokene

The results in this report apply to the samples analyzed in accordance with the chain





SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.,

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Doug Morell

073-93312-03 Project Number: Project Manager:

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL I	Jnits	Dil	Batch	Prepared	Annlyzed	Notes
SSH0168-07 (GTP4-8.0-082	709)	So	il		Samp	led: 08/2	7/09 15:59			
Bis(2-chloroethy!)ether	8270C STO Dry	ND	0.0011	0.011 mg	/Kg dry	1 _N	50040	09/10/09 7:24	09/14/09 21:06	
Phenol	×	ND	0.00084	0.01)	H	"	•	4	ч	
3-Chlorophenol	*	ND	0.00084	110.0		4	"		14	
3 & 4 Methylphenol	H	ND	0.00064	0.023	4	h	•	"	п	
1.3-Dichlorobenzene	•	ND	0,00082	0,0057	ь	H	n	11	*	
N-Nitrosodi-n-propylamine	*	ND	0.0011	0.011	ь	•	ít	tı .		
1,4-Dichlorobenzene	n	ND	0.00036	0.0057	H	11	N	Pr .		
Hexachloroethane	n	ND	0.0072	0.011		W	D	4;	"	
Benzyl alcohol	ď	ND	0.0011	0.011	n	"		1,	11	
Dibenzofuran	•	ND	0.00017	0.011	п	*	d .	*1	. 44	
Nitrobenzene		ND	0.0033	0.011	4		•	•	*	
1,2-Dichlorobenzene	n	ND	0.00073	0.0057				*		
2,4-Dinitrotoluene	•	ND	0.00028	0.011	н	*	-	•1		
Isophorone	H	ND	0.00047	0.011	•	n	1	tı.	n	
2-Methylphenol	,	ND	0.00081	0.011	в	41	"	ч	ч	
2-Nitrophenol	"	ND	0.00049	0.011			н	4		
Diethyl phthalate		2.0020	0.0017	0.011 1	•	17	×	• .	4	منظيليس
2.4-Dimethylphenol	is	ND	0.0(N)24	0.011	•	10	•	*	•	-
Benzoic acid	n	ND	0.074	0.28	•	10	ч	41	v	
4-Chloro-3-methylphenol	H	ND	0.00081	110.0	Ħ		,	P	n	
Bis(2-chloroethoxy)methane	•	ND	0.00034	110.0	•1 .	ч .		u	U	
2,4-Dichlorophenol	**	ND	0.00034	0.011	D	*	•	•		
2-Methylnaphthalene	e e	0.00031	0.00026	0.0023	-	7	н	•	a)	1
1,2,4-Trichlorobenzene	н	ND	0.0014	0.0057		` -	n , 1	•1	b	
Hexachiorocyclopentadiene	H	ND	0.00029	0.011	•			n	••	
2,4,6-Trichlorophenol	41	ND	0.00045	0.017	•		*	н		
Fluoranthene	и	ND	0.00014	0.0023	*	11				
Naphthalene	m .	0.00027	0.00025	0.0023	Ħ	ч	*	tı .		Ţ
2,4,5-Trichtorophenol	WI	ND	0.00049	0,011	п	9	н	II .	н	
4-Chloroaniline	п	ND	9.9012	0.011	#	0	•	tt.	и	-
Pyrene	"	ND	0.00016	0.0023	"	•		#L		
2-Chloronaphthalene	. 4	ND	0.00020	0.0023	u				•	
Butyl benzyl phthalate	D	ND	0.0035	0.011	"	ч	ч	••	*	
Hexachlorobuladiene	ų.	ND	0.0010	0.0057	n		-			
2-Nitroeniline	0 1	ND	0,00048	0.011				•	· •	
Dimethyl phthalate	b	ND	0.00048	0.011	.,	•	•	n .	•	
Acenaphthylene	н		0.00018	0.0023	þ	b	4	н	ij	
2,6-Dinitratoluene	w	ND	0.00047	0.011	п	-		-	11	

Test America Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be represented in its contraty.

Rundee Decker, Project Manager

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 (ak: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number:

Project Manager:

Avery Landing

073-93312-03 Doug Morell

Report Cremed;

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-07 (GTP4-8.0-082709)		Soi	1		Samp	led: 08/2	7/09 15:59			
3-Nitroaniline	8270C STD Dry	ND	0.00066	0.011 m	ny/Ky dry	lx	50040	09/10/09 17:24	09/14/09 21:06	
4-Chlorophenyl phenyl ether	**	ND	0.00065	0.011	4	•1	•	•	41	
Acenaphthene	11	ND	0.00018	0.0023		•	•	•	n	
2,4-Dinitrophenol	1)	ND	0.0016	0,11	40	•	h		(1	
Fluorene	(I	ND	0.00014	0.0023	Ð	Þ	b	11	*)	
4-Nitroaniline	н ,	ND	0.0016	1 (0.0	•		н	, в	1)	
4-Nitrophenol		ND	0.019	8.11	и	н	и		1)	
4,6-Dinitro-2-methylphenol	44	ND	0.0020	0.11	n	•1	d	n	ij	
N-Nitrosodiphenylamine	u	ир Н	T 0.00025	0.0057	n	•1	а	•	tı	*
4-Bromophenyl phenyl ether	41	ND	9,00937	0.011		Ð	14		4	
Hexachlorobenzene	•	ND	0.00043	0.0057	٠.	v	n		*	
Pentachlorophenol	•	ND	0.0014	0.011	•	-	•	4	-	
3,3'-Dichlorobenzidine	P	ND	0.00090	0.023		4		*	u	
Phenanthrene	u	ND	0.00024	0.0023		•	•	la .	H	
Anthracene	u	ND	0.00016	0,0023	•	h	"	H		
Benzoja janthracene	a	0.00068	0.00019	0.0028			4	*	'n	J
Chrysene	ď	0.00945	0.00016	0.0028	и	•	u		u	J
Di-n-butyl phthalate	•	0.0061	0.0029	0.023 L	. "	•	14	•	u	ستلسك
Bis(2-ethylhexyl) phthalate	•	מא	0.0048	0.17	н		•	-		
Di-n-octyl phthalate	-	ND	0.00015	0.023	•			•	rt	
Benzo[n]pyrene	"	0.0013	0.00024	0.0034			a .	•	**	,J
Indeno[1,2,3-cd]pyrene	u	0.00060	tL00048	11,0045		н		. •	•	J
Dibenz(a,h)anthracene	•	ND	0.00425	0.0045	at .	•	•	•	••	
Benzo[g,h,i]perylene	b	ND	0.00017	0.0028	9	h	ıı	. "	**	,
Carbazole	b	ND NJ	0.00049	0.017	d	u		*	u u	•
1-Methylnaphthalene	u	ND	0.00020	0.0034	•	*	10		0	
Benzo b Auoranthene	"	0.00082	0.00047	0.0023	•	*	•		и	.1
Benzo[k] fluoranthene		0.00019	0.00015	0,0028	•	•	*		•	J,
2.2'-axybis[1-chloropropane]	и	ND	0.00076	0.017	•		1)		•	
Surrogatets): 2-Fluorophenol	•	. `.	71%	•	36	 145 %	n		θ.	
Phenol-d5			80%			149%	n	-	49	
Nitrobenzene-d5	•		80%		38	141 %	" . "			
2-Fluorobiphenyl			80%			140 %	#		n	
2,4,6-Tribromophenol			99%			143 %	,,		"	
Terphenyl-d14			84%		42 - 1	151%	tr .		*	

TestAmerica Spokane

The results to this report apply to the samples analyzed in accordance with the chain of controls document. This candivised report must be reproduced in its emirery





SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Golder Associates, Inc.

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL Unit	S Dil	Batch	Prepared	Analyzed	Notes
SSH0168-09 (GTP5-3.0-082	709)	So	il	5	ampled: 08	/27/09 16:40			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0011	0.011 mg/K.g	dry lx	50040	09/10/09 17:24	09/14/09 21:27	
Phenol	и	ND	0,00080	0.0) t "	и	•		•	
2-Chloropheno)	,,	ND	0.00080	0.011 *		μ	4	•	
3 & 4 Methylphenol		ND	0,00060	0.022	•		N	•	
1,3-Dichlorobenzene	ii .	ND	0.00078	0.0054 "		a	н	*1	
N-Nitrosodi-n-propylamine	jt.	ND	0,0010	0.011 "	P	16	м	В	
1,4-Dichlorobenzene	*	ND	0,00034	0.0054	•	*	•	e .	
Hexachloroethane	0	ИD	0.0012	0.011 "	*	9	*	4	
Benzyl alcohol	•	ND	0.0010	0.011 "		*	41	»	
Dibenzofuran	ŕ	ND	0,00016	0.011 "		н	ú	by	
Nitrobenzene	ti ti	ND	0.0037	D.011 "	7 ° H	•	ø	4	
1,2-Dichlorobenzene	•	ND	0.00069	0.0054	•	u	•	•	
2.4-Dînîtrotoluene	4	ND	0,00027	0.011 "			**	**	
Isophorone	n	ND	0.00044	0.011 "	tı.	u	n.	ч	
2-Methylphenol	q .	ND	0,00076	0.011	ft	ie	*	6	
2-Nitrophenol	4	ND	0.00046	0.01)		•	. •	**	
Diethyl phthalate	•	0.0025	0,0076	0.011	в	9	•	4	سنلسلاس
2,4-Dimethylphenol		ND	0.00023	0.011 "	"		*	"	2
Benzoic acid	, h	ND	0,070	0,27 "	4	•	-	*	
4-Chloro-3-methylphenol	W	ND	0.00076	0.011 "	*		**	*	
Bis(2-chioroethoxy)methane	•	ND	0.00032	0.011	•		t.	•	
2,4-Dichlorophenol		ND	0.00032	0.011 "	H	•	•	*	
2-Methylnaphthelene		ND	0,40025	0.0022	*	P	u		
1,2,4-Trichlorobenzene		ND	0.0013	0.0054 "			•	u	
Hexachlorocyclopentadiene	n	ND	0,00028	0.011	n ,	•	11	•	
2.4.6-Trichlorophenol	**	ND	0.00043	0.016 "	п	••	r	4	
Fluoranthene	n .	ND	0.00013	0.0022 "		•			
Naphthalene	*	ND	0,00024	0.0022 "	H)	и	•	•	
2,4,5-Trichlorophenol	.	ND	0.00046	0.011 "	и	#	*1	•	
4-Chloroaniline	•	ND	0.0012	0.011	4	n	н	*	
Pyrene	• • • • • • • • • • • • • • • • • • •	ND	9,00015	0.0022		H	н -		
2-Chloronaphthalene	e	ND	0,00019	0.0023 "	b	*	N	"	
Butyl benzyl phihalate	*	ND	0.0033	0.011 "		**	II .	6	
Hexachlorobutadiene	*	ND	0,00098	0.0054 "	н	4	н	и	
2-Nitronniline	ь	ND	0.00045	0.01) "	•	u		н	
Dimethyl phtholate	۳ .	ND	0,00045	0.011 "	•			*	
Acenaphthylene		ND	0.000.17	0.0022	u .	,,, <u>,</u> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		.	
2,6-Dinitrotoluene		ND	0,00044	0.011 "	4	"	ь	"	

TestAmerica Spokane

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5POKANE, WA 11922 E. 1ST AVENUE \$POKANE VALLEY, WA B9206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Manager: **Avery Landing**

Project Number:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-09 (GTP5-3.0-082709)		So	il		Samp	led: 08/2	7/09 16:40			
3-Nitroaniline	8270C STD Dry	ND	0.00063	0,011 n	ng/Kg dry	או	50040	09/10/09 17:24	09/14/09 21:27	
4-Chlorophenyl phenyl ether	•	ND	0.00061	0.011	*	p	Þ		6	
Acenaphthene	•	ND	0.4001*	0.0022	. "		"	**		
2.4-Dinitrophenol		ND	0.0015	0.11	•	91			и	
Fluorene	н	ND	0.00073	0.0022		•	h		H	
4-Nitroaniline	w .	ND	0.0015	110.0	41		н	N		
4-Nitrophenol	¥	ND	0.018	11.0		0		•	'n	
4.6-Dinitro-2-methylphenol	•	ND	0.0019	0.11			•		ø	
N-Nitrosodiphenylamine		ND U	T0.00024	0.0054	*	-		•	-	•
4-Bromophenyl phenyl ether		ND	0.00034	0,011	. в	•	4	U	*	
Hexachloro benzene	11	ИD	0.00041	0.0054	n	H	le .	ш		
Pentachlorophenol	b	ND	0,0013	0,011	*	•	•	-	4	
3.3'-Dichlorobenzidine	n	ND	0.00085	0.022	•	*	•	н	a.	
Phenanthrene		ND	0.00023	0.0022		*			IP	
Anthracene	и	ND	0.00015	0.0022	•	n	u	-	•	
Benzo[a]anthracene	le .	ND	0.00018	0.0027		n		•	п	
Chrysene	n	ND	0.00015	0.0027		0.	• •	ь	11	
Di-n-butyl phthalate	и .	0.0087	0.0028	0.022 L	•		. •	ч	•	سنلك
Bis(2-ethylhexyl) phthalate		ND	0.0045	0.16	•	-			41	
Di-n-octyl phthalate	н	ND	0,00014	0.022	•		to		u	
Bénzo[a]pyrene	•	0.00080	0.00023	0.0032	-	н	•		1)	1
Indeno[1,2,3-cd]pyrene	**	0.00065	0.00045	0.0043	•	*	•	. 4	11	J
Dibenz(a,h)anthrocene	•	ND	0.00024	0.0043	•	•	b		•	
Benzolg,h,ilperylene	. u	0.00086	0.00016	0.0027			н		4	J
Carbazole		ND MC	0.00016	0.016		•	•	6		•
1-Methylnaphthalene		· ND	0.00019	0.0032	ь	•	•	•	4	
Benzo[b]fluoranthene	*	0.00091	0.00044	0.0022	h	4	••	и	•и	Į.
Benzo[k]fluoranthene	•	0.00016	0.00014	0.0027	•	•	41	"	u	1
2.2'-oxybis[t-chloropropane]		ND	0.00072	0.016	H	ж .	**	#	•	
Surrogate(s): 2-Fluorophenol			9.2%		36 -	145 %	, .	-	и	•••
Phenol-d5			83%			49%			"	
Nitrobenzene-d5			85%			41%			n :	
2-Fluorabiphenyl			84%			40 %	#		47	
2,4,6-Tribromophenol			101%			43 %	п		и	
Terphanyl-d14	•		87%		42 - 1	51%	"		"	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain afcentualy decembent. This analytical report must be reproduced in its entirety.





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax; (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Annlyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-10 (GTI	25-7.0-082709)	So	íl		Samp	led: 08/2	27/09 16:53			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0020	0.020	mg/Kg dry	1x	50040	09/10/09 17:24	09/14/09 21:47	
Phenal	N	ND	0,0013	0.020	4	•	н	H	0	
2-Chlorophenol	•	ND	0,0015	0.020	u	**	ęi.	*	"	
3 & 4 Methylphenol	п	ND	0.0011	0.041	Ħ	41	b	٠	P	
1,3-Dichlorobenzene	н	ND	0.0015	0.010		μ	•			
N-Nitrosodi-n-propylamii	ne "	ND	0.0020	0.020		11	••	•	ч	
1,4-Dichlorobenzene	н	ND	0.00066	0.010	•	•	•	•	u	
Hexachloroethane	. 4	ND	0.0023	0,020	ń		•		44	
Benzyl alcohol	n	ND	0.0020	0.020	•1	•	- и	N.	N	
Dibenzofuran	4	ND	0.00031	0.020	M		li .	н	•	
Nitrobenzene	•	ND	0,6059	0.020	*	r	,,	**	•	
,2-Dichlorobenzene	a	ND	0.0013	0.010		и	4		•	
4-Dinitrotoluene	•	ND	0.0005 (0,020	n	"	4		· · · •	
sophorone	•	ND	0.00084	0.020	•	a	D	4	4	
-Methylphenol	u	ND	0.0015	0.020	q		. =		"	
-Nitrophenol	я	ND	0.00088	0.020		•	٠		и	
lethyl phthalate	u	ND	0.0031	0,020		•	н		u	
4-Dimethylphenol		ND	0.00043	0.020	a			ч	4	
enzoic acid	. •	ND	Q. 13	0,51	u	•	•		4	
-Chioro-3-methylphenol	и	ND	0.0015	0.020	u			, "	н	
is(2-chloroethoxy)metha	ne "	ND	0.00061	0.020	"				H	•
4-Dichlorophenol	я.	ИĎ	0,00061	0.020	44		н	a	ч	
Methylmaphthalene	н	0.010	0.00047	0.0041	4		*		· · · · · · · · · · · · · · · · · · ·	
2,4-Trichlorobenzene	R	ND	0,0025	0.010	n	н	ø	*	w *	
exachlorocyclopentadien	e *·	ND	0.00053	0.020	4	•	**		N	
4.6-Trich larophenal	-	ND	0.00082	0,031		=		*	•	
luoranthene	4	ND	0.00025	0.0041		•			ч	
aphthalene	ĸ	0.031	0,00045	0.0041	41	*	**	te	1	
4,5-Trichlorophenol	•	ND	0,00088	0.020	ш	•	4	*	H	
Chloroaniline	•	ND	0.0023	0.020	h	•		· · ·	44	
/rene	n	ND	0,00029	0.0041			•		**	
Chloronaphthalene	n	ND	0.00037	0.0041	4		•		D.	
utyl benzyl phthalate	n i	ND	12.0064	0.020	•	4	ц	-H	0	
exachtorobutadiene	ij	ND	0.0019	0.010	4		н	я	н	
Nitrouniline	D	ND	0,00086	0.020	•			"	и .	
imethyl phthalate	,	ND	0.00086	0.020		n.	. *		"	
cenaphthylene	·	ND	0.00033	0,0041			0			
6-Dinitrotoluene	11	ND	0.00084	0.020	п				h	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager; 073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Тасогла

Analyte	Method	Result	MDL*	MRL	Units	Dil	Bateli	Prepared	Analyzed	Notes
SSH0168-10 (GTP5-7.0-082709)		Sol			Samı	oled: 08/2	27/09 16:53			
3-Nitroaniline	8270C STID Dry	ND	0.0012	0.020	mg/Kg dry	in	50040	09/10/09 17:24	09/14/09 21:47	,
4-Chlorophenyi phenyl ether	(1	ND	0.0012	0,020	н	H	•	ж .	19	
Acenaphthene	4)	ND	0.00033	0.0041	*	•	. "	•	u	
2,4-Dînîtrophenol	41	ND	0.0029	0.20		n	•	n	*	
Fluorene	16	0.0082	0.00025	0.0041	*	n	•	•	.*	
4-Nitroaniline	· ·	ND	0.0029	0,020	Ð	-	4	6	μ	
4-Nitrophenol	и	ND	0.035	0.20	ii.	*	"	4	łı	
4,6-Dinitro-2-methylphenol	u	ND	0.0037	0.20	u	v	"	н	4*	
N-Nitrosodiphenylamine		ND L.C	J 0.00043	0.010	•		•		n	*
4-Bromophenyl phenyl ether	*1	ND	0.00058	0.020		"	"	•	,	
Hexachiorobenzene	11	ND	0.00078	010,0	•	41	4	4s	el	
Pentachiorophenol	ft .	ND	0.0025	0.020	μ			41	P	
3.3'-Dichlorobenzidine	a ti	ND	0.0016	0.041	n	н				
Phenanthrene	н	0.062	0.00043	D.004 I	u	**		•	н	
Anthracene	h	ND	0.00029	0.0041	*	н	н		*	
Benzo[a]anthracene	n	ND	0.00035	0.0051	•	и	n	#I	4	
Chrysene	N	שא	0.00029	0.0051	u	×	ı	Ti.	P.	
Di-n-hutyl phthalate	u .	0.20	0.0053	0,043	•	*	-	*	•	فلسس
Bis(2-ethylhexyl) phthalate	•	ND	0.0086	0.31	*1	•	•	*		
Di-n-octyl phthalate	e .	ND	0.60027	0,041	**	U	•	ь	ŀ	
Benzo[a]pyrene	*	ND	0.00043	0.0061	P	и	44	н	н	
Indeno[1.2.3-cd]pyrene	•	ND	0.00086	0.0082	n	•	•	•		
Dibenz(a,h)anthracene	41	ND	0.00045	0.0082			•		•	
Benzo[g,h,i]perylene	4	ND	0.00031	0.0051	H	•		a	•	
Carbazole	II .	ND HC	0.00088	0.031	wt '	в		ď	e l	+
1-Methylmaphthalene	ú	0.016	0.00037	0.0061	n n		n		п	
Benzo[b]fluoranthene		ND	0.00084	0.0041	•	"		. п	11	
Benzo[k]fluoranthene		ND	0.00027	0.0051	0	•	"	4		
2,2'-oxybis[1-chloropropane]	•	ND	0.0014	0.031	•	-	٠	•	•	
Surrogatets): 2-Fluorophenol	• •	•	91%		16-	145%		-	- ·· ·. ·	
Surrogate(s): 2-Fluorophenol Phenol-d5			87%			149%			**	
Nitrobenzene-cl5			93%			14/%			"	* *
2-Fluorobiphenyl			78%		42 -	140%	"		"	
2,4,6-Tribromophenol	1		02%			143%	11		ti	
Terphenyl-d i 4			48%		42 -	151%	n		**	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Project Manager:

Avery Landing

Project Number: 073

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dli	Batch	Prepared	Analyzed	Notes
SSH0168-11 (GTP6-10-082809)		So	il		Samp	led: 08/2	8/09 10:36			
Bis(2-chloroethyl)ether	8270C S'I'D Dry	ND	0.016	0.16	mg/Kg dry	‡ D x	50040	09/10/09 17:24	09/15/09 16:24	
Phenol	II .	ND	0.012	0,16	•1		b	,	"	
2-Chlorophenol	и	ND	0,012	0.16	•	н	п		*	
3 & 4 Methylphenol	*	NĎ	0.0092	0.33	*		н			
1.3-Dichlorobenzene	•	ND	0.012	0.082	•		*	u	u	
N-Nitrosodi-n-propylamine	•	ND	0.016	0.16	•	•	ď	4	•	
1,4-Dichlorobenzene	н	ND	0,0052	0.082		•	•			
Hexachloroethane	ii .	ND	0.018	0,16	4		H	•	•	
Benzyl alcohol	и	ND	0.016	0.16	11	•	11	*	41	
Dibenzofuran	11	ND	0,0025	0.16	D	4	41		P.	
Nitrobenzene	18	ND	0.047	0.16	•		u		и	
1,2-Dichlorobenzene	•	.ND	0.010	0,082	4		II .	n	i t	
2,4-Dinitrotoluene	0	ND	0.0047	0.16	H	• .	*			
Isophorone		ND	0.0067	0.16	¥I	•	*	el .	d	
2-Methylphenol	н	ND	0.012	0.16	P	*		ь	ш	
2-Nitrophenol		ND	0,0070	0.16		*		P	•	
Diethyl phthalate	a	ND	0.025	0.16	*		n	48		
2.4-Dimethylphenol	н ,	ND	0.0034	0.16			ji .	. "	•	
Benzoic acid	ii	ND	1.1	4.1	=	D	P	4	•	
4-Chloro-3-methylphenol	н	ND	0.072	0.16	4	u	н		μ	
Bis(2-chloroethoxy)methane	u	ND	0,0049	0.16	н	•		•	и	
2,4-Dichlorophenol	•	ND	0.0049	0.16	•		łı		н	
2-Methylnaphthalene	ч	78	0.19	1.6	n	500x	a	п	09/15/09 20:13	
1,2,4-Trichlorobenzene	п	ND	0.020	0.082	н	10x	P		09/[5/09 16:24	
Hexachlorocyclopentadiene	ь	ND	0.0043	0.16	H	•	N	tı .	bi	
2.4.6-Trichlorophenol	•	ND	0,0065	0,25	•1		•	н	*	
Fluoranthene	н	0.15	0.0020	0.033	. "	•		•	u	
Naphthalene	н	27	0.18	1.6	"	500x	₹I	•	09/15/09 20:13	
2,4,5-Trichlorophenol	u	ND	. 0,0070	0.16	4	tüx		*	09/15/09 16:24	
4-Chloroaniline		ИD	0.018	0.16	pl.		•	•	4	
Pyrene		0.12	0.0023	0,033	4			÷		
2-Chloronaphthalene		ND	0.0029	0.033	11	H	"	47	u	
Butyl benzyl phthalate	•	ND	0.051	0.16	"	•	. н		p	
Hexachlorobutadiene	•	ND	0.015	D.082	H			и	"	
2-Nitroaniline	И	ND	0.0069	0.16			4	0	N	
Dimethyl phthalate	#	ND	0,0069	0.16	n		*	*	н	
-Acenaphthylene	н	ND	0.0026	0.033			"		**	
2,6-Dinitrotoluene	,,	ND	0.0067	0.16	*		•	,	*	

TestAmerica Spokane

The results in this report apply in the samples analyzed in accordance with the chain of custualy document. This analytical report must be reportalized in its entirety.

Randee Decker, Project Manager

Nowake 1





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: Project Manager: 073-933 | 2-03 Doug Morell Report Created;

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-11 (GTP6-10-082809)		Soi	1		Sam	pled: 08/2	28/09 10:36			
3-Nitroaniline	8270C STD Dry	ND	0.0095	0.16	mg/Kg dry	10x	50040	09/10/09 17:24	09/15/09 16:24	
4-Chlorophenyl phenyl ether	u	ND	0.0093	0.16	•			4	•	
Acenaphthene	II.	1.2	0.0026	0.033	**	4	4	*	"	
2.4-Dinitrophenol	4	ND	4,023	1.6	•	ч	μ	u	"	
Fluorene		2. [0.0020	0,033	Ħ	•	4	W 5	u	
4-Nitroaniline	4	ND	0,023	D.16	6		4	*		•
4-Nitrophenol	N	ND	0,28	1.6		. "	•	•	••	
4.6-Dinitro-2-methylphenol	•	ND	0.029	1.6	"	•	•	*		
N-Nitrosodiphenylamine		ND	5 4 ,0036	0.082	ME	, "		4	,	*
4-Bromophenyl phenyl ether	ħ	ND	0,0054	0.16	φ -		u	ø	*	
Hexach loro benzene	н	ND	0.0062	0,082		16	*	(F	•	
Pentachlorophenol	u	ND	0,020	0.16		,,	H	•		
3.3'-Dichlorobenzidine	a	ND	0.013	0.33	•	,,		н	**	
henanthrene	n.	2.4	0.0034	0.033	D		a	•	н	
Anthracene	ii .	ND	0.0023	0,033	4	u	lę	N	10	
Зенzo[a anthraceле	#	0.026	0.0028	0,041	н	· #		4		J
Chrysene	•1	0.047	0.0023	0.041	a	*	•			
Di-n-butyl pluthalate	41	سيولس	0,043	0.33	U "	•	•	u		للبهلير
Bis(2-ethylhexyl) phthalate	u .	ND	0.069	2.5	U	•	n	,,	•	
Di-n-octyl phthalate	•1	ND	0.0021	0,33	"		u	и	•	
Benzo[a]pyrene	6 1	ND	0.0034	0.049	я	u u		•1	•	
Indeno[1,2,3-cd]pyrene	. п	ND	0.0069	0.065	. *		· •	n	11	
Olbenz(n,h)anthracene	,	ND	0.0036	0.065		•		N		
Benzo[g,h,i]perylene	и	ND	0.0025	0.041	"~~		n	•		
Carbazole	. #	ND A	0.0070	0.25	TAX	*	*	•		*
-Methylnaphthalene	u	45	0.13	2.5	", U	500x	н	- 11	09/15/09 20:13	
Benzo[b]fluoranthene	N	ND	0,0067	0.033	91	10x		46	09/15/09 16;24	
Benzo[k]Iluoranthene	41	ND	0.0021	0,041	•		1)			
2,2'-oxybis[l-chloropropane]	U	ND	0.017	0.25	•	*1	*	"	•	
Surrogate(s): 2-Fhiorophenol	• •		0%		86.	. 145 %				n. v
Phenol-d5			0%	•		149%	*			D. X D. X
Nirobenzene-d5			0%			141 %				D. X
2-Fluorobiphenyl	•		0%			140 %	n			D. X
2,4,6-Tribromophenol			0%		28 -	143 %	n			D. X
Terphenyl-d14			0%		42 -	151%	rr			D. X

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Project Manager:

Avery Landing

073-93312-03 Project Number:

Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Anglyzed	Notes
SSH0168-12 (GTP6-2.5-082	809)	So	il		Samp	led: 08/2	8/09 10:10			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0011	0.011	ug/Kg dry	lx.	50040	09/10/09 17:24	09/14/09 22:28	
Phenol	1)	ND	0.00082	0.011	w)	**	4	•1	ń	
2-Chlorophenol	. "	. ND	0,00082	0.011	*	**		v	•	
3 & 4 Methylphenol	0	ND	0,00062	0.022	**		*	v	*	
1,3-Dichlorobenzene	"	ND	0,00080	0.0056	**	**	. "	• •		
N-Nitrosodi-n-propylamine	h	ND	0.0011	0.011	•			ν	4	
1,4-Dichlorobenzene	II.	ND	0.00036	0.0056		4	•		4	
Hexachloroethane	ħ	ND	0.0012	0.013	p	U	"	H	и	
Benzyl alcohol	0	NĎ	0.0011	0.011	•		u	•	•	
Dibenzofuran	*	ND	0.00017	0.011	u u	-	4	. *	•	
Nitrobenzene	u	ND	0,0032	0,011	. "	•		"	,	
1,2-Dichlorobenzene	H	ND	0,00071	0,0056	"	•	н	u	u	
2.4-Dinitrotaluene	•	ND	0,00028	0,011	4)	-	н	u	ā	
Isophorone	M	ИD	0.00046	0.011	п	n	•	44	77	
2-Methylphenol	н	ND	0.00079	0.011	11		` "	4	-	
2-Nitrophenol	D	ND	0.00048	110.0	,		ri	ν	μ	
Diethyl phthalate		9.0023	0.0017	0.011	L *	*		u	и	المسائد
2.4-Dimethylphenol	M	ND	0,00023	110,0		•	*	**	ei .	•
Benzoic acid	=	NĎ	0,072	0.28	μ	-	v		ц	
4-Chioro-3-methylphenol	u u	ND	0,00079	0.011		•	**	H	16	
Bis(2-chloroethoxy)methane	u	ND	0.00033	0.011	*	•	"		••	
2.4-Dichlorophenol	ā	ND	0.00033	110,0	×		ıı		D	
2-Methylaapinhalene	D	0.0020	0.00026	0.0022	*	. и	H	. •	ц	.1
1,2,4-Trichlorobenzene	ü .	ND	0.0013	0.0056	n	4		•	*	
i-lexachlorocyclopentadiene	44	ND	0.00029	0,011	n	le .	11			
2,4,6-Trichlorophenol	•	ND	0.00045	0.017	"			. •	•	
Fluoranthene	•	ND	0,00013	0.0022		•	n	•	n	
Naphthaleac	II.	0.0011	0,00024	0.0022		*	4		"	J
2,4,5-Trichlorophenol	41	ND	0.00048	110.0	. н	w	н	#f	м	
4-Chloroaniline	И	ND	0.0012	0.011	u	*1	*1	Þ	п	
Pyrene	41	ND	0.00016	0.0022			•		. •	
2-Chloronaphthalene	#1	ND	0.00030	0.0022		"	4	4	•	
Butyl benzyl phthalete	IF .	ND	0.0034	110,0	ш	и	4	*	U	
Hexachlorobuladiene		ND	0.0010	0,0056	u	*	*	4	и	
2-Nitroaniline	и	ND	0.00047	0.011	+	•1	н	•		
Dimethyl phthalate		ND	0,00047	0.011			•		•	
Accnaphthylene—————		ND	0,00018	D.0022		•	+		*	
2.6-Dinitrotoluene		ND	0.00046	0,01)	п .	*1	•	ч		

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be represented in its entirety.





THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

Test America Tacoma

Analyte	Mcthod	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Amalyzed	Notes
SSH0168-12 (GTP6-2.5-082809)		So	il		Sam	led: 08/2	28/09 10:10			
3-Nitrosniline	8270C STD Dry	ND	0,00063	0.011	mg/Kg dry	l x	50040	09/10/09 17:24	09/14/09 22:28	
4-Chlorophenyl phenyl ether	*	ND	0.00063	0.011	•	**	**	ie	H	
Acenaphthene		ND	0.00018	0.0022		4		и	**	
2,4-Dinitrophenol	-	ND	0,0016	0,11	10	41	14	n		
Fluorene	•	ND	0.00013	0.0022	10	**	**	•	•	
4-Nitroaniline	•	ND	0.0016	110.0	n	-	•1	*		
4-Nitrophenol	H	ND	0.019	0.11		н	n	•	4	
4,6-Dinitro-2-methylphenol	*	ND	0.0020	0,11			a	μ	1	
N-Nitrosodiphenylamine	U	ND ()	J0.00024	0.0056	"		•1	u	u	*
4-Bromophenyl phenyl ether	a	ND	0.00037	0.011			N	и	•	
Hexachlorobenzene	ja.	ND .	0.00042	0.0056	•	н	п	"	n	
Pentachiorophenol		ND	0.0013	0.011		п	u	N	•	
3,3'-Dichlorobenzidine	m	'nD	0.00088	0.022	*	*	.,	41	•	
Phenanthrene		ND	0.00023	0.0022	49	•	u	n	•	
Anthracene	#	מא	0.00016	0.0022	•			"	-	
Benzo[a]anthracene		ND	0.00019	0,0028	4	-	N	н	•	
Chrysene	*	ND	0.00016	0.0028	4	H	•	N	**	
Di-n-butyl phthalate	ĮI.	0.0075	0.0029	0.022	, .	D	•		n	سيلسلند
Bis(2-ethylhexyl) phthalate	"	ND	0.0047	0.17	- ,		a			2
Di-n-octyl phthalate	-	ND	0.00014	0,022	11		•	-		
Benzojalpyrene	u	0.0016	0.000,23	0.0033	ų		ai	**	•	a
Indeno[1,2,3-ed]pyrene	ú	0.00070	0.00047	0.0045	H	•	*N	10	19	J
Dibenz(a,h)anthracene	а	ND	0.00024	0.0045	4	•		u		
Benzo[g,h,i[perylenc	•	0.0011	0.00017	0,0028	4		41	u		
Carbazole	4	ND (1	5 0.000-18	0.017			. "		-	•
i-Methylnophthalene		0.0016	0,00020	0.0033		n	ч	•	••	
Benzo[b]fluoranthene	ď	0.00098	U,00046	0.0022	-		4	. "	P	Į
Benzo(k fluoranthene	e	0.00038	0.00014	0.0028	*	μ	4	u.	U	7
2.2'-oxybis[1-chloropropane]	#	ND	0.00075	0,017			II .	II	*	100
Surrogate(s); 2-Fluorophenol	•		81%		36 -	145 %	в		#	
Phenol-d5			78%			149 %	n		**	
Nitrobenzene-d5			86%			141%	n .		# 1	-
2-Fluorobiphenyl			75%		42 -	140%	er .		rr rr	
2,4,6-Tribromophenol			98%	-		143 %	"			
Terphenyl-d14			84%		42 -	151%	н		n	

TestAmerica Spokane

The results in this repart apply to the samples anothered in accordance with the claim of costady document. This analytical report must be reproduced in its entirety.

(Circlession Randee Decker, Project Manager





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dit	Batch	Prepared	Analyzed	Notes
SSH0168-13 (GTP6-17-08280	9)	So	<u>n</u>		Samp	led: 08/2	8/09 11:11			
Bis(2-chloroethyl)ether	8270C STD Dry	סא	0.0028	0.028	mg/Kg dry	lx	50040	09/10/09 17:24	09/14/09 22:49	
Phenol	Ţ.	0.0095	0.0021	0.028	=	Þ	н	a	ı.	
2-Chlorophenol	ń	ND	0.0021	0.028	•		H	D	π	
3 & 4 Methylphenol	"	МĎ	0.0016	0.056	u	4	"	•	4	
1,3-Dichlorobenzenc	•	ND	0.0020	0.014			•	•	•	
N-Nitrosodi-n-propylamine	•	ND	0.0027	0.028	"	•	u			
1,4-Dichlorobenzene	le .	ND	0,00090	. 0.014	*		"	, n	н	
Hexachloroethane	•	ND	0.0031	0,028	*		"	n	n	
Benzył alcohol	*	ND	0.0027	0.028	•	•	U	•		•
Dibenzo furan	4	ND	0.00042	0.028				•	n	
Nitrobenzene	te .	ND	0,0087	0.028	•	•			п	
1.2-Dichlorobenzene	Ħ	ND	0.0078	0.014		u	r	н	, п	
2,4-Dinitrotoluene	le .	ND	0.00070	0.028	•			4	4	
Isophorone	•	ND	0.0011	0.028			*	ď	•	
2-Methylphenol	6	מא	0.0020	0.028	•	•	4		н	
2-Nitrophenol	•	ON	0.0072	0.028	*		•	-	4	
Diethyl phthalase	и	ND	0.0043	0.028	•	я	u	*	u ,	
2,4-Dimethylphenol		ND	0.00059	0.028			*	"		
Benzoic seid	u	ND	0.18	0.70	•			#	*	
4- Chioro-3-methylphenol	п	ND	0,0020	0.028			u			
Bis(2-chloraethoxy)methane	u	ND	0.00084	0,028	•	u	4	•		
2,4-Dichlorophenol	11	מא	0.00084	0.028		H	н	ıı	*1	
2-Methylnaphthaiene		0.48	0.00064	0.0056			•	•1		
1_2,4-Trichlorobenzene	• •	ND	0.0034	0.014	ь	. 0	n		n	
Hexachlorocyclopentadiene	ч .	ND	0,00073	0.028	н	•	•	н		
2,4,6-Trichlorophenol	п	ND	0.0011	0.042	4)	**	•	H	·u	
Fluoranthene	1	0.040	0.00034	0.0056	•	*	••	45	"	
Naphthalene	•	0.096	9.00062	0.0056	-	**	н		u	
2,4,5-Trichlorophenol	n	ND	0.0012	0.028		*1	•	-	*	
4-Chloroaniline	n	ND	0,003 /	0.028	n	•		**	**	
Pyrene		0.083	0.00039	0.0056			4	*	n	
2-Chloronaphthalene	a,	NĐ	0.00050	0.0056			•	•		
Butyl benzyl phthalate	•	ND	0.0087	0.028	-			•	•	
Hexachlorobutadiene	P	ND	0.0025	0.014		•		•	•	
2-Nitroaniline	b	ND	0,0012	0.028	41	ıt	μ	*	+ ,	
Dimethyl phthalate	M	ND	0.0012	0.028	**	н	47	4	н	• *
Acenzphthylene		ND	0.00045	0.0056	4	# 3,		"	ъ	
2.6-Dinitrotoluene	•	ND	0.0017	0.028		H	D	•	н	_

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody dazument. This analytical report must be reproduced in its entirety.





11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Project Manager: **Avery Landing**

er: 073-93312-03

Doug Morell

Report Crested:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

Test America Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-I3 (GTP6-17-082809)		Soil			Sam	pled: 08/2	8/09 11:11			
3-Nitroaniline	8270C STD Dry	ND	0.0016	0.028	mg/Kg dry	١x	50040	09/10/09 17:24	09/14/09 22:49	
4-Chlorophenyl phenyl ether	*	ND	0.0016	0.028	*	•1	. 1	"	•1	
Accuaphthene	•	0.029	0.00045	0.0056	4	н	D	*	н	
2,4-Dinitrophenol	ii	ND	0.0039	0.28	*	ь	н	at .	u	
Fluorene	•	0.032	0,00034	0.0056	*		•	4	n	
4-Nitroaniline	u	ND	0.0039	0.028	n	**	•	P	ø	
4-Nitrophenol	и .	ND	0.048	0.28			4			
4,6-Dinitro-2-methylphenol	u	ND	0,0050	0.28				•	•	•
N-Nitrosodiphenylamine	п	ND U.	0.00062	0.014	ч	4	D	4	u	*
4-Bromophenyl phenyl ether	10	ND	0.00092	0.028	и	*		•	u	
Hexachloro benzene	н	ND	0.0011	0.014	и	P	4	n	ч	
Pentachlorophenol ·	n	ND	0.0034	0.028			•		•	
3,5'-Dichlorobenzidine	41	ND	0,0023	0.056	0	*	,	•	,	
Phenanthrene	n n	0.051	0.00059	0.0056	n		4	•	ч	
Anthracene	41	0.0088	0.00039	0.0056	,	π	0	4	И	
Benzo a anthracene	4	0.051	0.00048	0.0070	10	•		μ	**	
Chrysene		0.069	0.00039	0.0070	•	**	#	*	•	
Di-n-butyl phthalate	•	ND	0.0073	0.056	•	•	•		u u	
Bis(2-ethylhexyl) phthalate		ND	0.012	0.42	•	u	,	4		
Di-n-octyl phthalate	•	ND	0.00036	0.056	41	4	. •	•II	ı	
Benzo a[pyrene		0.041	0.00059	0,0084	•	•	ц	ń,		
Indeno[1,2,3-cd]pyrene		0.013	0.0012	0,011	H		10		to to	
Dibenz(a,h)anthracene	D	0.0079	0.00062	0.011	n	•	• •	n	v	
Benzo[g,h,i]perylene	n	0.024	0.00042	0.0070	"		"	II.	u	
Carbazole	"	NDUJ	0.0012	0.042	•	4	"	٠.	el	*
1-Methylnaphthalene		0.33	0.00030	0,0084	w)	**	ŧI	•	**	
Benzo[b] fluoranthene	•	0.049	0.0011	0.0056	и	•		W	n	
Benzo(k)fluoranthene	N	0.012	0.00036	0.0070	۳	41	•	**	*	
2.2 -oxybis[1-chloropropane]	a	ND	0.0019	0.042	и		•1		•	
Surrogate(s): 2-Fluorophenol	•• •		83%		36 -	145 %	"		н	
Phenol-d5			73%			149 %	v	•	n	
Nitrobenzene-d5			75%		38 -	141%	μ		•	
2-Fluorabiphenyl			80%		42 -	140 %	u		u	
2,4,6-Tribromophenal			98%			143 %	'n		er	
Terphenyl-d i 4			88%		42 -	151%	#		"	-

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE PERSON OF SECTION AND PROPERTY.

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-14 (GTP7-2.5-082809)		So	il	Sampled: 08/28/09 12:50						•
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0011	0.011	mg∕Kg dry	١x	50040	09/10/09 17:24	09/14/09 23:09	
Phenol	D	ND	0.00079	110.0	"	•	H	11	*	
2-Chlorophenot	ėl	ND ·	0.00079	110,0		•	•	•	#	
3 & 4 Methylphenol	N	מא	0.00060	0.02	11		н	-	н	
1,3-Dichtorobenzene	n	ND	0.00077	0,0053	•	"	*	•	41	
N-Nitrosodi-n-propylamine	11	ND	0.0010	0.011	**		n	4	41	
1,4-Dichlorobenzene	*	ND	0,00034	0.0053	*	•		•	41	
Hexachloroethane	ч	ND	0,0072	0.01;	11		4	ŗ	*	
Benzyl alcohol	n	ND	0,0010	0,011		*	и	a	•	
Dibenzofuran		ND	0.00016	0.011		"	п	•	•	
Nitrobenzene	и	ND	0.003	0.011	a	"	a		-	
1.2-Dichlorobenzene	WI .	ND	0.00068	0.0053	4	IF	aj .		-	
2,4-Dinitrotoluene	el .	ND	0.00027	0.011	0	и	41	н	•	
Isophorone	11	ND	0.00044	0.011	4)		n	*	•	
2-Methylphenol	и	ND	0.00076	0.011	•		ı	14	u	
2-Nitrophenol	ь	ND	0.00046	0.011	•		••		п	
Piethyl phthalate		0.0026	0.0076	0.011	Ĺ ·	•	•	ч	ц	يتهلغم
2.4-Dimethylphenol	4	ND	0.00022	0.011	-, •	n		\$1	n	•
Benzoic acid	•	ND	0.069	0.27			•	q	n	
4-Chloro-3-methylphenol	**	ND	0.00076	0.011	10	10	•	ч		
Bis(2-chloroe(hoxy)methane	ít	ND	0,00032	0.011	a	n	•	u	n	
2,4-Dichlorophenol	•	ND	0.00032	0.011	41	10	-		grant 1	
2-Methylnaphthalene		ND	0.00024	0.0021			*	•	n	
1,2,4-Trichiorobenzene		ND	0.0013	0.0053		10	*		n	
-lexachlorocyclopentadiene		ND	0,00028	0.011	4)		-	U	n	
2,4,6-Trichlorophenol		ND	0.00043	0.016	-			v	u	
luoranthene	at .	0.0012	0.00073	0.0021		"		•	N	J
Aphthalene	ч	0,00040	0,00023	0.0021	•		n	•	*	
2.4.5-Trichlorophenol	41	ND	0.00046	0,011	b	p	"	*	4	
-Chloroaniline	и	ND	0.0012	0.011		41	n	н	н	
yrene	н	0.0015	0.00015	0.0021	*	. •		Ħ	ü	
-Chloronaphthalene		ND .	0.00019	0.0021		•1	*	•	ц	
Butyl benzyl phthalate	•	ND	0.0033	0.011	D	•	•	4	ч	
exachlorobutadiene		ND	0.00097	0.0053	в е	•1	•			
-Nitroaniline	•	ND	0.00045	0.011	*	H	**	•		
Dimethyl phthalate	и	ND	0.00045	0.011	2 1		a	n	·	
.conaphthylene	n	0.00076	0,00017	0.0027	**	4	•	n,	41	J
2,6-Dinitrotoluene	"	ND	0.00044	0.011	*		н	4	4	

TestAmerica Spokane

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Crested:

Redmond, WA 98077

Project Manager:

Doug Morell

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
. SSH0168-14 (GTP7-2.5-082809)	So	îl _		Samp	led: 08/2	28/09 12:50			
3-Nitroaniline	8270C STD Dry	ND	0,00062	0.011 m	g/Kg dry	lx	50040	09/10/09 17:24	09/14/09 23:09	
4-Chlorophenyl phenyl ether	a 41	ND	0,00067	110,0	"	41	n	H	e	
Acceaphthene	p	ND	0.00017	0,0021	,		•	•	•	
2,4-Dinitrophenot	и .	ND	0.0015	0.11	•	4	•	*		
Fluorene	ji	ND	0,00013	0.0021	u	•	•	**	R	
4-Nitroaniline	ii	· ND	0.0015	0.011	"	••		•	a a	
4-Nitrophenol	N	ND	0,018	0.11	4	*1	•	•	N	
4,6-Dinitro-2-methylphenol	в .	ND	0,0019	0.11	н	**	•	•	-	
N-Nitrosodiphenylamine		ND 🛂	T 0,00023	0,0053	×	*.	**	•	н	•
4-Bromophenyl phenyl ether	n	ND	0.00035	0.011		*1	**	4	μ	
Hexachlorobenzene	n	ND	0,00040	0.0053	н	ш	n	41	n	
Pentachlorophenol	ıı	ND	0.0013	0.011		11				
3.3'-Dichlorobenzidine	₩	ND	0.00084	0.021	н	19	4	4	•	
Phenanthrene	4	ND	0.00022	0.002			•	24		
Anthracene	•	ND	0.00015	0.0021	4		4	*	•	
Benzo[a]anthracene	н	ND	0.00018	0.0027	H	4)	A	*		
Chrysene	н	ND	0.00015	0.0027	•	-	•	•		
Di-n-butyi phthainte		0.0084	0.0028	0.021			•	*		سينسلنس
Bis(2-ethylhexyl) phthalate		ND	0.0045	0.16			•	*		_
Di-n-octyl phthalate	•	ND	0.00014	0.021	n		ń	H	u	
Велго[а]ругене	•	0.0016	0.00022	0.0032	e \$	**	•	×	u '	.)
Indena 1,2,3-cd pyrene	M .	0.0014	0.00045	0.0043	n			\$5		J
Dibenz(a,h)anthracene	•	ND	0.00023	0.0043	*			•	,	
Benzolg,h,i]perylene		0.0017	0.00016	0.0027		*		41		1
Carbazole		0.00059 🖫	0.00046	0.016	**	**	4		4	J, *
1-Methylnaphthulene	. *	ND	0.00019	0.0032	n	*		11	įs	
Benzo[b]fluoranthene	ď	0.0021	0.00044	0.0021	*1	•	•		**,	.1
Benzo killuoranthene	a a	0.00052	0.00014	0.0027	•1		10	4	el	.3
2,2'-oxybis[1-chloropropane]		ND 	0.60071	0.016		•	ŋ			
Surragate(s); 2-Fluorophenal			63%		36 -	145 %			W	
Phenol-d5			71%		38	149%	u		W	
Nitrobenzene-d5	•		77%			141%	ri		ti	
2-Fluorobiphenyl			75%			140 %	n		N	
2,4,6-Trîbromophem	ol .		100%			143 %			n n	
Terphanyl-d14			84%		42 -	151%			**	

TestAmerica Spokane

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Moreil

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL Un	its Dil	Batch	Prepared	Analyzed	Notes
SSH0168-15 (GTP7-10.0-082809)		So	íl						
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0011	0.011 mg/K	gdry lx	50040	09/10/09 17:24	09/14/09 23:30	
Phenol	u	ND	0.000040	0.011	4 1	d	ah	*	
2-Citlorophenol	a	ND	0,00000	0.011		*		*1	
3 & 4 Methylphenol	a	ND	0,00067	0.022	a u	•	ч .	4	
1,3-Dichlorobenzene	ıı	ND	0,00078	0,0054	ч н	•	**		
N-Nitrosodi-n-propylamine	ч	ND	0.0010	0,011	4 F	*		n,	
1.4-Dichlorobenzene	ч	ND	0.00035	0.0054	. "	ĸ	•	n	
Hexachloroethane	,	ND	0.0012	0.011	D #1	n		н	
Benzyl alcohol		ND	0,0010	0.011			41	ш	
Dibenzofuran	ii ii	ND	0.00016	0.011		4	Ŋ	u	
Nitrobenzene	ji .	ND	0.0031	0.011	41	μ	n	4	
1.2-Dichlorobenzene	10	ND	0.00069	0,0054	ı ır	le .		•	
2,4-Dinitrotoluene		ND	0.00027	0.011		"	*		
Isophorone	ik	ND	0.00044	0,011		"	b	Ħ	
2-Methylphenol	Į a	ND	0.00077	0.011	. "	11		rt	
2-Nitrophenol	n	ND	0.00047	0.011	. 4		•	w	
Diethyl phthalate	n	_0.0027	0.0016	0.011 🛴		u	и	a	وللبنيد
2,4-Dimethylphenol	j é	'ND	0.00023	0.011	•	"		-	
Benzoic acid	n .	ND	0.070	0.27 *		u		*	
4-Chloro-3-methylphenol	II	ND	0.00077	0.011	D D	41	н	at	
Bis(2-chloroethoxy)methane	Ŋ	ND	0.00032	0,011 '			19	р	
2,4-Dichlorophenol	"	ND	0.00032	0.011	•	в	n		
2-Methylnaphthalene	a	0.00067	0.00025	0.0022			u	u	.1
1,2,4-Trichlorobenzene	u	ND	0.0013	0.0054	+1	и		-	
Hexachlorocyclopentadiene	•	ND	0.00028	0.011 . *	и	**		u u	
2,4,6-Trichlorophenol	0	ND	0.00043	0,016 *	u	-		N	
Fluoranthese	u	0.0034	0.00013	0.0022 "	н	•	al	el .	
Naphthaleuc	*1	0.00048	0.00024	0.0022 "	U	•	•:	»	. 1
2.4.5-Trichlorophenol		ND	0.00047	0.011	п		•	**	
4-Chloroaniline	•1	ND	0.0012	0.011 *	"	,	41	4	
Pyrene	ü .	0.0037	0.00015	0.0022 "	(r	ч	n	и .	
2-Chloronaphthalene		ND	0.00019	0.0022	to to		и	ü	
Butyl benzyl phthalate	п	ND	0,0034	0.011 "	H	•	н	•	
Hexachlorobutadiene	. и	ND	0.00098	0.0054 "	n	•	н		
2-Nitroaniline	н	ND	0.00045	0.011 "	u	٠.	• .		
Dimethyl phthalate	ŧ	ND	0.00045	0.011 "	u	0	×	•	
Acenaphthylens		0.00083	0.00017	0.0022	Ħ	ı,	41	•	7
2,6-Dinitrotoluene	"	ND	0.00044	0.011 "	•	n	м	6	

TestAmerica Spokane

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Randee Decker, Project Manager

Page 140 of 220



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd, Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-15 (GTP7-10.0-082809)		Soi	Sampled: 08/28/69 1			28/09 13:27				
3-Nitroaniline	8270C STD Dry	ND	0,00063	0,011	mg/Kg dry	lx	50040	09/10/09 17:24	09/14/09 23:30	
4-Chlorophenyl phenyl ether	u	ND	0.00062	0.011	•	•		H	11	
Acenaphthene	4	ND	0,00017	0.0022		0		•	*	
2,4-Dinitrophenol	н	ND	0.0015	0.11	H	0	4	и	п	
Ruorene	н	ND	0.00013	0.0022	h	n	a	4	п	
I-Nitroaniline	n	МD	0.0015	0.011		0	ú	4	ii	
l-Nitrophenol	4	ND	0.018	0.13		D	"	•	n	
I,6-Dinitro-2-methylphenol		ИD	0.0019	0.11	•	u	"	• "	a	
V-Nitrosodiphenylamine		ND (1)	T 0.00024	0,0054		4)			u	•
l-Bromophenyl phenyl ether	и	ΝD	0.00036	0,011	и	n	н	a	e e	
lexacislorobenzene	#	ND	0.00041	0.13054	4		. **	44	4	
Pentachlorophenol	и .	ND	0.6013	0.011	•	n	•	4	•	
3-Dichtorobenzidine	*	ND	0,00085	0.022				44	а	
benanthrene	u	0.00087	0,00023	0.0022	ja .	u		*		
uthracene	u	0.0016	0,00015	0.0022	μ '	u	ъ .		te:	
enzo[a]anthracene	и	0.0021	0.00018	0.0027	Įį.	ii.		*	ie	
hrysene		0.0038	0.00015	0.0027	u,	п		*	•	
i-n-butyl phthalate	u	0.0088	0,0028	0.022	L ."	v		•	ч	لند
is(2-cthylhexyl) phthalate		ND	0.0045	D.16	*	•	D.		••	-
i-n-octyl phthalate		ND	0.00014	0.022	H	u ·		*	w	
enzo[n]pyrene		0.0035	0.00023	0.0032	*	н	n		11	
ideno[1,2,3-cd]pyrene		0.0025	0,00045	0.0043		ш	n	a	41	
ibeuz(a,h)anthracene	•	0.00079	0.00024	0,0043		•	·	a	4	
enzo[g,h,i[perylene	•	0.0033	0,00016	0.0027		**	P	et	0	
arbazole	N	0.0010	T 0,00042	0.016 -	•	••		4	"	,i
Methylnaphtimiene	*	0.00056	0.00019	0.0032	•	*1	u	•	ч	
enzo[b]Auoranthene	•	0.0050	0.00044	0,0022		•1	p		11	
enzo[k]Nuoranthene	4	0.0018	0.00014	0.0027		*1	н	"		
2'-oxybis[1-chloropropane]	•	ND	0.00073	0.016	11	**		*	-	
Surrogate(s): 2-Fluorophenol		*****	74%		36 - 1	145 %	"		B	
Phenol-d5			73%			49 %	и		"	
Nitrobenzene-d5	•		82%		38 - 1	41%	41		#	-
2-Fluorobiphenyl			78%			40%	#f		H	
2,4,6-Tribromophenol			102%		28 - 1 42 - 1	143 %	n		#i	

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99205-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Amilyte	Method	Result	MDL.	MRL	Units	Dit	Bateli	Prepared	Annlyzed	Notes
SSH0168-16 (GTP7-18-082809)		Soi	il		Samp	led: 08/2	8/09 13:58			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0011	0.011	mg/Kg dry	lx	50040	09/(0/09 17:24	09/14/89 23:51	
Phenal	•	ND	0.00082	0.011	N	*	a	41	n	
2-Chlorophenol	n	ND	0,00082	0.011	n	, 0	•	•	•	
3 & 4 Methylphenol	•	ND	0,00062	0.022			n	M	u	
,3-Dichlorobenzena	Ü	ND	0,00080	0.0055	· u		ď	*	u	
N-Nitrosodi-n-propylamine	li .	ND	0.0011	0.011		•			. и	
,4-Dichlorobenzene	N	ND	0.00035	0,0055	4		•	•	*	
lexachloroethane	4	ND	0.0012	0.011	•	,	H	ı	•	
Benzyl alcohol		ND	0.0011	0.011		ь	D		ν	
Dibenzofuran	eş.	ND	0.00017	0.011		v	ч	u	n.	
Vitrobenzene	и	ND	0.0032	110,0		d	•	n	и	
,2-Dichlorobenzene	N	, ND	0.00071	0.0055	•	14	*	lı .	H	
,4-Dinitrotoluene	*	ND	0.00028	0.011		*	•	•		
ophorone	94	ND	0.00043	0.011	μ	n		mt.	. #	
Methylphenol		ND	0.00079	0.011	" .	0	и	h	11	
Nitrophenol	•	ND	0.00048	0.011	b	a	įr	п	ď	
icthyl phthalate		0.0025	0.0017	0,011 L	L "	*	н	н	н	سلحسد
4-Dimethylphenol	•	ND	0.00023	0.011	•	*1	•	•		-
enzoje acid	**	ND	0.072	0.28		и	n	•	at .	
Chloro-3-methylphenol		ND	0,00079	0.011	ь .		н	4	Ф	
is(2-chloroethoxy)methane	ís .	ND	0.00033	0.011	P		н	м	. 4	
4-Dichlorophenoi	a	ND	0.00033	0.011	. "	**	10	•	11	
Methylnaphthalene		0.00046	0.00026	0.0022	•	•		• 10	"	
2,4-Trichlorobenzene	46	ND	0.0013	0.0055	**		n	41	*	
exachlorocyclopentadione		ND	0.00029	0.011	n	n	*	h	ú	
4.6-Trichlarophenal	u	ND	0.00044	0.017	ıl	ıl		4 H	-	
uoranthene	•	ND	0.00013	0.0022		n		4	*	
phthalene	41	0.00039	0.00024	0.0022	P	*	er		•	
4,5-Trichlorophenol	•	ND	0.00048	0.013		*	. "	n n	"	
Chloroaniline	•	ND	0.0012	110,6	*	**		н		
rene		0.00039	0.00016	0.0022	•	ø :	н .	.*	4	
Chioronaphthalene	at .	ND	0.00020	0.0022	**	•	÷	ėį		
nyl benzyl phthaiate	р (ND	0.0034	0,011		a	,	41	4	
exacillorobutadiene		ND	0.0010	0.0055		٠	н		٠.	
Nitroaniline	и	ND	0.00047	0.011		**	•	"	r r	
methyl phthalate	Ħ	ND	0.00047	0.011	н	•		u ,	. •	
canaphthylene	*	ND	0.00018	0.0022		•	•	ia.		
6-Dinitrotoluene		ND	0.00043	0,011	n		1	п п	п	

TestAmerica Spokane

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Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager: Doug Morell 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	<u> </u>	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-16	(GTP7-18-082809)		So	il		Sam	pled: 08/2	8/09 13:58			
3-Nitronniline		8270C STD Dry	ND	0.00064	110.0	mg∕Kg dry	ls	50040	09/10/09 17:24	09/14/09 23:51	
4-Chiorophenyl pi	ienyl einer	•	ND	0.00063	0.011	0	H	•			
Acenaphthene		•	ND	0.00018	0.0022		•	U	**	4	
2,4-Dinitrophenol		н	ND	0.0016	0.11		μ	н	4	a	
Fluorene		4	ND	0.00013	0.0022		är	n	•	n	
4-Nitroaniline		*1	ND	0.0016	0.011		#	"	•	ď	
4-Nitrophenol		•	ND	0.019	0.11	•1	*	4	-		
4,6-Dinitro-2-meti	ylphenol		ND	0.0020	0.11	M	٠.	ч		•	
N-Nitrosodiphenyl	amine	•	И С И	J 0,00024	0.0055	*		н		•	•
4-Bromophenyl ph	enyl ether		ND	0.00037	0.011	н	D	-			
Hexach loro benzen	e	•	ND	0.00042	0.0055	n	a	*	-		
Pentachlorophenol		и	ND	0.0013	0.011	μ	a	h	•		
3,3'-Dichlorobenzi	dine	u	ND	0,00088	0.022			н			
Phenanthrene		-	ND	0.00023	0.0022	n	м	μ	b	u	
Anthracene	•	н .	ND	0,00016	0.0022	rl	n	4	ıl	'n	
Benzo(a)anthracen	e	ii	ND	0.00019	0.0028	п	•			ų	
Chrysene			ND	0.00016	0.0028	*		*	in .	4	
Di-n-butyl phthala	ate	41	0.0086	u,0029	0.022	W.	•	•1	-	-	كالبيلسر
Bis(2-ethylhexyl) p	hthalate	#	ND	0.0047	0.17	H	-	•1	1=	H	
Di-n-octyl phthalat	e	4	NĐ	0,98014	0,022	•	-	pi		H	
Benzo[a]pyrene		in .	ND	0.000,23	0.0033	H	•	•1	11	w	
indeno[1,2,3-ed]py	rene	ĸ	ND	0.00047	0.0044	n	, *	11	•	и	
Dibenz(a,h)anthrac	ene	* N	ND	0.00024	0.0044	n	*1		a	"	
Benzo(g,h,i peryler	ne	ir	ND	0.00017	0.0028		•1	a	*		
Carbazole		н	ND 1	T 0.00048	0.017	*	P	N	*	u	*
i-Methylmaphtbale	ene	17	0.00031	0,00020	0,0033	n	D	ч	h		J
Benzo[b]fluoranthe		ы	ND	0,000-15	0.0022		ь	*	11	**	
Benzo(k]fluoranthe		n '	ND	0.00014	0.0028		n		н	-	
2,2'-oxybis[1-chlore	эргорале]	н	ND	0.00074	0.017	-	p	"		*	
Surrogate(s):	 2-Finoraphenal	•		75%		36 -	145%		•		•
	Phenol-d5			78%			149%			4	
	Nitrobenzene-d5			81%	*	38 -	141%	**		и	
	2-Fluorobiphenyl	•		76%			140 %	"		,	
•	2.4.6-Tribromophenol		1	98%			143 %	•		n	
	Terphenyl-d14			86%		42 -	151 %	"		"	

TestAmerica Spokane

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Randee Decker, Project Manager

I Broke Liber





Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-17	(GTP2-2.5-082709)		Soi	<u> </u>		Samp	led: 08/2	7/09 11:40			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.12	1,2	ıng/Kg dry	10x	50040	09/10/09 17:24	09/15/09 00:11	
Phenol		19	ND	0.090	1.2	•			P)	16	
2-Chiorophenol		4)	ND	0.090	1.2	4•	**	u	n		
3 & 4 Methylphen	lon	1)	ND	0,068	2.4	10	•		u		
l .3-Dichlorobenze	ene	*1	מא	0.087	0.61	н		•	h	u	
N-Nitrosadi-n-pro	pylamine	1)	ND	0,12	1.2	H	•	•			
4-Dichlorobenze	ene	n	ND	0.039	0.61	v	4		4	W	
Hexachloroethane	•		ND	0.73	1.2	"			**	н	
Benzyl alcohol		11	ND	0.12	1.2	n	đ	a ,		*	
Dibenzofuran		п	ND	0.018	1.2	"	4	4	•	н	
Vitrobenzene		ń	ND	0.35	1.2	*	•	4	q	n	
.2-Dichlorobenze	ene	ч	ND	0.078	0.61			. н	ч	•	
.4-Dinitrotoluene		II.	· ND	0.030	1.2			**	u		
sophorone		н -	ND	0.050	1.2	N		"	u	u	
-Methylphenol		Ħ	ND	0.086	1.2	*1		41	14	ŧi	
-Nitrophenol		н	ND	0.052	1.2	II	p	Þ		w)	
icityl phthalate		PI	ND	0.18	1.2	u,	•	U		•I	
4-Dimethylphen	ol	₹1	ND	0.025	1.2		•		•	*1	
enzoic acid		•1	ND	7.9	30			PI		16	
-Chloro-3-methyl	phenol	п	ND	0,086	1.2	n	•	M	44	п	
is(2-chloroethox)	/)methane	•	ND	@ 036	1.2	п	11	71		ú	
.4-Dichloropheno		u	ND	0.036	1.2		"	и		-	
-Methylnaphthale		•	ND	0.028	0.24	11				*	
2,4-Trichleroben		u	ND	0.15	0.61	n	u	a	•	N	
lexachlorocyclope		ч	ND	0.032	1.2	n	н	н	11		
4.6-Trichlorophe		·	ND	0.049	8.1	•	*		đ		
luoranthene		,	0.089	0.015	0.24		e	•	•		
aphthalene		a	ND	0.027	0,24			••	(4		
.4.5-Trichloropher	not	a	ND	0.052	1.2			p p	•		
Chioronniline	4		מא	0.13	1.2	PI .	n		-	•	
/rene		-	0.081	0,017	0.24	ii .	ń	H	н		
Chloronaphthaler	ne	n .	ND	0.032	0,24	n	•			o	
ityl benzyl phthal			ND	Q.38	1.2	n		H	•	ų	
exachlorobuladies			ND	0.11	0,61	10	•	•	Ħ	u	
Nitroaniline		**	ND	0.051	1.2	и	D	ь	•		
imethy! phthalate			ND	0.057	1.2	н	p	н	4	ír	
cenophthylene			ND	0.019	0.24	н	n	н		н	
6-Dinitrotoluene	. —	и	ND	0.050	1.2	"	н	н	п п		

TestAmerica Spokane

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Rundee Decker, Project Manager

Page 144 of 220



Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dit	Batelı	Prepared	Analyzed	Notes
SSH0168-17 (GTP2-2.5-082709)		Soîl			Sam	pted: 08/2	7/09 11:40			<u> </u>
3-Nitrouniline	8270C STD Dry	ND	0.070	1.2	mg/Kg dry	10x	50040	09/10/09 17:24	09/15/09 00:11	
4-Chlorophenyl phenyl ether	el .	ND	0.069	1.2	•		•		٠.	
Acenaphthene	41	ND	0,019	0.24	•		*	*	н	
2.4-Dinitrophenol	н	ND	0.17	12	•	N		н		
Fluorene	n	ND	0.015	0.24	11	н	u	•	u	
4-Nitroaniline	"	ND	0.17	1.2	u	•	h		ú	
4-Nitrophenol	n	ND	2.1	12	"	n	*	19		
4,6-Dinitro-2-methylphenol	п	מא	0.22	12	*		-			
N-Nitrosodiphenylamine		ND KL 3	0.027	0.61	•	0	•	q	**	*
4-Bromophenyl phenyl ether	ii	ND	0.040	1.2	•	4			14	
Hexachlorobenzene	ir	ND	0.046	0.61	•	**	4	•	14	
Pentachiorophenol	ie.	ND	. 0.15	1.2		1)		n	**	
3.3'-Dichlorobenzidine	•	ND	0.096	2.4	-	0	•	u	4	
Phenanthrene	п	ND	0.025	0.24	•			4	• •	
Anthracene	II .	ND	0.017	0.24	•	N		н	e	
Benzo[a]anthracene	TI .	ND	0.021	0,30		91	۹ .	pl		
Chrysene	р	ND	0.017	0.30	**	•	Þ	•		
Di-n-butyl phthalate		ND	0.32	2.4		••	•	•		
Bis(2-ethylhexyl) phthalate	"	ND	0.51	18		-		4	H	
Di-n-octyl phthalate	N	ND	0,016	2.4		**	п	44	н	
Benzo[ajpyrene	• •	0.072	0.025	U.36	4	q			, n	
Indeno[1,2,3-od]pyrene	JI	ND	0.051	0.49		u	•	•	ıi	
Dibenz(a,h)anthracene	ч	ND	0.027	0.49	•	"	H		*	
Benzo[g,h,i]perylene	tř	ND	0.078	0.30	*	••		•		
Carbazole	D	ND UJ	0.052	1.8		v		ч	**	•
I-Methylnaphthalene	h	ND	0.022	0.36	4		-	•1	**	
Benzo[b]fluoranthene	4	ND	0,050	0.24		h	41	n	р	
Benzo[k]fluoranthene		ND	0.016	0.30		•	ı,	•	N	
2,2'-oxybis[t-chloropropane]	0	ND	4,481	8.1	•I	•	"		M	
Surrogate(s); 2-Fluorophenol			0%		36.	. 145 %	,			
Phenol-d5			0%		38 -	149%	и		" x	
Nitrobenzene-d5			0%		38 -	141%	*		" X	
2-Fluorobiphenyl			0%			140%	п		" X	•
2,4,6-Tribromophenol			0%			143 %	N		" X	
Terphenyl-d14			0%		42 -	151%	н		" X	

TestAmerica Spokane

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Randee Decker, Project Manager

Page 145 of 220



1.1922 E. 1ST AVËNUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-18 (GTP2-8-082709)		Sc	oil		Samp	led: 08/2	7/09 11:58			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0,0011	0.012	mg/Kg dry	1x	50042	09/10/09 17:52	09/15/09 16:45	
Phenol	•	ND	0.00086	0.012	*	n	4		н	
2-Chlorophenol		ND	0.00086	0.012	ħ	ii	•	be the	ti .	,
3 & 4 Methylphenol	N	ND	0.00065	0.023	4	н		•	4	
1,3-Dichtorobenzene	n	ND	0.000R3	0.0058		•	ь	**	a	·
N-Nitrosodi-n-propylamine	1)	ND	0.0011	0.012	a	11	•	11	*	
1.4-Dichiorobenzene	•	. ND	0.00037	0.0058	•		•	*	41	
Hexachloroethane		ND	0,0013	0.012	P.	•	•	•	и .	
Benzyl alcohol	r.	ND	0.0011	0.012		-	u			
Dibenzofuran	**	ND	0.00017	0.012	*1	"	4	u	-	
Nitrobenzene	11	ND	0.0034	0.012	•			•	•	
1,2-Dichlorobenzene	0	ND	0.00074	0.0058	U		h	P	ч	
2,4-Dinitrotoluene	ŭ .	ND ·	0.00029	0.012	н	н	ч	п		
Isophorone	н	ND	0.00047	0.012	•		•	w	n	
2-Methylphenol	n	ND	0.00082	0.012	•	*	H		a	
2-Nitrophenol	н "	ND	0.00050	0.012		•			u	
Diethyl phthalate	"Stet	0.0019	0.0017	0.012-	K-10	\mathcal{Q}^{+}	tr	•		.1
2,4-Dimethylphenoi	•	ND	0.00024	0.012		O _B	*	•1	"	
Benzoie acid		ND	0.075	0.29	ь	10	4	0	•	
4-Chloro-3-methylphenol	h	ND	0.00082	0.012	•	•	•	••	"	
Bis(2-chloroethoxy)methane	u .	ND	0.00035	0.012	11	D	•	0	tl .	
2,4-Dichlorophenol	н	ND	0.00035	0.012	is .	н	4	u	Þ	
2-Methylnaphthalene		ND	0.00027	0,0023			. "	"	н	
1.2.4-Trichlorobenzene	n	ND	0.0014	0.0058		4	•1	41	*	
Hexachlorocyclopentadiene	•	ND	0.00030	0.012	•	н	•		19	
2.4.6-Trichlorophenol	•	ND	0.00046	0.0 7	"	-	n	-	•	
Fluoranthene	u	0.0078	0.00014	0.0023	•	н	ıı	4)	•	
Naphtholene	•	ИD	0.00025	0,0023	n	h	•		41	
2,4,5-Trichlorophenal	п	ND	0.00050	0.012		-	b	•	4	
4-Chloroaniline		ND	0.0013	0.012	•	*		*	*	
Pyrene		0.0087	9.09016	0.0023	-	•	-	•	"	
2-Chlororaphthalene .	И	ND	0.00021	0,0023	h	**	•	•1	•	
Butyl benzyl phthalate	a)	ND	0.0036	0.012	H	b		U	IJ	
Hexachlorobutadiene		ND	0.0011	0.0058	*1	**	4	н	*	
2-Nitroaniline	•	ND	0.00049	0.012	n	*19	*	•	•	
Dimethyl phthalate	*	ND	0.00049	0.012	9		4		. •	
Accomplifylene		0.00072	0.00019	0.0023			tı	4 r		J
2,6-Dinitrotoluene	,	ND	0.09047	0.012	•	9 1	#	R	н	•

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: **Avery Landing**

Project Manager:

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Bateh	Prepared	Analyzed	Notes
SSH0168-18 (GTP2-8-082709)		So	i)		Samp	led: 08/2	7/09 11:58			
3-Nitroaniline	8270C STD Dry	ND	0.00067	0,012	mg/Kg dry	1x	50042	09/10/09 17:52	09/15/09 16:45	
4-Chlorophenyl phenyl ether		ND	0.00066	0,012			*	I* .	ч	
Acenaphthene	7	ND	0.00019	0.0023				п	•	
2.4-Dinitrophenol	u ·	ND	0.0016	0.12	-	n	4		4	
Fluorene	a	ND	0.00014	0.0023			N		•	
4-Nitroaniline		ND	0.0016	0,012	•	•	•			
4-Nitrophenol	•	ND .	0.020	0.12			"	n	v	
4,6-Dinitro-2-methylphenol	4	ND	0.0021	0.12	".	. "	n	4)	*	
N-Nitrosodiphenyiamine	•	NDI	J 0.00025	0.0058	100	}- •	"	4	a	
4-Bromophenyl phenyl ether	•	ND	0.00038	0.012		**	h	"	4	
Hexachiorobenzene		ND	0.00044	0.0058	٠,	•	h	"	•	
Pentachlorophenol	н	ND	0.0014	0,012	н		4	H•		
3,3'-Dichlorobenzidine	n	ND	0,00091	0.023			•:	n	p.	
Phenanthrene	×	0.0029	0.00024	0.0023		•	h	41	44	
Authracene	*	0.00084	0,00014	0.0023	"	•		. •		.3
Benzojajanthracene		0.0057	0,00020	0,0029			4	,		
Chrysene		0.0068	0.00016	0.0029	**	•	•1	1.		
Di-n-butyl phthalate	•	0.0071	0.0030	U 023	LL."	•• .	ъ.			ستخلبنسي
Bis(2-ethylhexyl) phthalate	la .	ND	0.0049	0.17	п	*1	h	ű	•	
Di-n-octyl phthalate	ь	ND	0.00015	0.023	u-	11	u	u	•	
Benzo[n]pyrene	•	0.0047	0.00024	0.0035		0		n	•	
Indeno 1,2,3-cd pyrene	al	0.0024	0.00049	0.0046	ь	n	*1		ú	ď
Dibenz(a,h)anthracene	•	ND	0,00025	D.0046	a	*	u	•	¥	
Benzo (g, h, i)perylene	v	0.0020	0.00017	0.0029			۳.	If	•	4
Carbazole	*	ND (5 0,00050	0.017	116	学 "	ĸ	4)	η	
1-Methylnaphthalene	ч	ND	0.00021	0.0035		"	•	II.	ú	
Benzo[b]fluoranthene	•	0.0057	0.00047	0.0023	41	-	. •	# .	"	
Benzo k fluoranthene	*	0.0018	0.00015	0.0029	41	*	,	*	*	1
2.2'-oxybis[-chloropropane]	. 4	ND	0,00077	0.017	н ,		4	d	-	
Surrogate(s): 2-Fluorophenol	41 4	***	91%		36 -	145 %	R .			•
Phenol-d5			78%			149 %	ti		"	
Nitrobenzene-d5			77%			141%			"	
2-Fluorobiphenyl			80%		42 -	140%			"	
2,4,6-Tribramaphenal			98%			143 %			"	
Terphenyl-d14			96%		42 -	151%	u		п	

TestAmerica Spokane

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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Project Manager:

Avery Landing

Doug Morell

Project Number: 073-93312-03

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-19 (GTP2-13-082709)		So	il		Samp	led: 0 8/2	27/09 17:28			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.0013	0.013	mg/Kg dry	1×	50042	09/10/09 17:52	09/15/09 17:06	
Phenoi	u	ND	0.00094	0.013	и .		P P	¥	U	
2-Chlorophenal	•	ND	0,00094	0.013			u	H	a	
3 & 4 Methylphenol	×	ND	0.00071	0.025	e l	U	•		*	
1,3-Dichlorobenzene		ND	0.00091	0.0063	•I		9	В		
N-Nitrosodi-n-propylamine		ND	0.0012	0.013	**	H	r.		4	
1,4-Dichlorobenzene		ND	0.00040	0.0063	h	•	A	*	li .	
Hexachloroethane		ND	0.0014	0.013		ĸ	•1	•	10	
Benzyl alcohol	u	ND	0.0012	0.013			41	u	ij	
Dibenzofuran .	b	ND	0.00019	0.013	**	н	a	(1	u	
Nitrobenzene	*	ND	0.0037	0.013	•	•1		N/	w	
1,2-Dichlorobenzene		ND	0,00081	0.0063	-		*	•	4.7	
2.4-Dinitrotoluene	-	ND	0.0003.2	0.013	•			a	a	
Isophorone .	м .	ND	0.00052	0.013	45	18	a	is .	u	
2-Methylphenol		ND	0.00090	0.013	•	10	•	le .	(r	
2-Nitrophenol		ND	0.00054	0.013	4	"				
Diethyl phthalate	, "	0.0020	0.0019	0.013	•	n	b	•	٠	1
2,4-Dimethylphenol	•	ND	0.00027	0,013	•	u ·	u '	6	•	
Benzoic acid	u	ND	0.082	0.32	•	•	₩.		ú	
4-Chloro-3-methylphenol	u	ND	9,00090	0.013	n	н	*		4	
Bis(2-chloroethoxy)methane	7)	ND	0.00038	0.013	•	4	и .	a		
2,4-Dichlorophenol		ND	0.00038	0.013	•	٠.		-		
2-Methylnaphthalene		ND	0.00029	0,0025	•	"	p	*	u	
1,2,4-Trichlorobenzene	*	ND	0.0015	0.0063		M		M	••	
Hexachlorocyclopentudiene	•	ND	0.00033	0.013	•	şi.		•	σ	
2.4,6-Trichlorophenoi	•	ND	0.00051	0.019	μ	W				
Fluoranthene	-	0.0010	0.00015	0.0025	٠.	,,	,	11	•	.I
Naphthalene	•	ND	0.00028	0,0025	11	"	и	41		,
2,4,5-Trichlorophenol	п	ND	0.00054	0.013	**	4	el	u	•	1
4-Chloroaniline		ND	0.0014	0.013			el .	0	п	•
Pyrene	ń	0.0012	0.00018	0,0025	н		**	p	11	1
2-Chloronaphthalene	4)	ND	0.00023	0.0025	"	4			*	
Buryl benzyl phthalate	"	ND	0.0039	0.013	ь	•1	*	*	••	
Hexachlorobutadiene	•	ND	0.0012	0.0063	-	"	n	•1	u	
2-Nitroaniline	•1	ND	0.00053	0,013	н	и	u	4	*	
Dimethyl pluhalate	41	ND	0.00053	0.013		•	*	ú	77	
-Acenaphthylene		ND_	0.00030	0,0025	ıı		,	« <u> </u>	4	
2.6-Dinitrotoluene	e	ND	0.00052	0.013	н	w	n		b	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the claim of custody document. This analytical report must be reproduced in its entirety.





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Project Manager:

Avery Landing

Project Number:

073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-19 (GTP2-13-082709)		So	il		Sam	pled: 08/	27/09 17:28			
3-Nitroaniline		8270C \$110 Dry	ND	0.00073	0.013	ng/Kg dry	lх	50042	09/10/09 17:52	09/15/09 17:06	
4-Chlorophenyl pher	nyl ether	a	ND	0.00072	0.013		**	•	41	u	
Acenaphthene		*	ND	0,00020	0.0025	ь	•	ti	P	•1	
2,4-Dinitrophenol		м	ND	0.0018	0.13		a		II.		
Fluorene		•	מא	0.00015	U.0025				4		
4-Nitroaniline		•	ND	0.0018	0,013	м	**	al		4	
4-Nitrophenol		41	ND	0.022	0.13	*1	v		и		
4.6-Dinitro-2-methyl	phenol	9	ND	0.6023	0.13	ь		4	n		
N-Nitrosodiphenylan	nine	п	ND	0.00028	0.0063	41	٠.	"	u	٠.	
4-Bromophenyl phen	yl ether	4	ND	0.00042	0.013		•	ď	•1	"	
Hexachlorobenzene		•	ND	0.00048	0.0063	•	,	•	•	•	
Pentachlorophenol		•	ND	0.0015	0.013	*	4	u		U	
3,3'-Dichlorobenzidir	пе		ND	0.0010	0.025	P	•	•	N	ø	
Phenanthrene			ND	0.00027	0.0025	н		•			
Anthracene		u	ND	0.00018	0.0025	"	,	n	"	u	
Benzo[n anthracene		u	0.0010	0.00022	0.0032	•	•		•		ı,
Chrysene		•	0.0017	9,00018	0.0032	•	•	u			1
Di-n-butyi phthaiate		u	-0.0067	0.0033	0.025 U	(•		D	14	•	سيجهنس
Bis(2-ethylhexyl) phi	halate	a	ND	0.0053	0.19	•		"	-di	. 4	
Di-n-octyl phthalate		n	ND	0.00076	0.025	•					
Benzojajpyrene			0.00086	0.00027	0.0038	"	-	•	"	•	1
Indeno[1,2,3-cd]pyrer	ne	•	ND	0.00053	0.0051	4	•		,,	•	
Dibenz(a,h)anthracent	e		ND	0.00028	0.0051	u	Р	41	n	u	
Benzo[g,h,i]perylene		*	ND	0.00019	0.0032	11		Į.	н	4	
Carbazole			ND	0.00054	0.019	"	*		11		
l-Methylnaphthalene			ND	9,00023	0.0038	"	•	•		14	
Benzo[b]fluoranthene			ND	0.0003.2	0.0025		•	-	14	u	
Benzo[k]fluoranthene		W	ND	0,00016	0.0032	μ.	11	н	и	•	
2,2'-oxybis[1-chloropr	ropane]	•	ND	0,00085	0.019	*	и	Ħ	"	•	
Surrogate(s):	2-Fluorophenol			66%		36 -	145 %	u		r)·	••
i	Phenol-dS			58%		38 -	149 %	a		r/	
	Nttrobenzene-d5			59%			141 %	h		at .	
	2-Fluorobiphemyl			59%			140 %			**	
	7,4,6-Tribromophenol			70%			143 %	n n		u	
7	Terphenyl-d14			62%		42 -	151%	u.		**	

TestAmerica Spokane

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Moreli

Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Ðil	Butch	Prepared	Analyzed	Notes
SSH0168-20 (GTP1-2.5-082	709)	Soi	l		Samp	led: 08/2	7/09 09:20			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.11	1,1	աճ⁄ Қ8 գւ.	10x	50042	09/10/09 17:52	09/15/09 17:27	
Phenol	M	ND	0,083	Ll		, .	"	•	•	
2-Chlorophenol	*	ND	0.083	1.1	a	u	u	41	H	
3 & 4 Methylphonol		ND	0,063	2.3	а	μ	"		II .	
1,3-Dichlorobenzene	w	ND	0.081	0.56	я	н	ч	n	u	
N-Nitrosodi-n-propylamine	H	ND	0.11	1.1	н	н	*	a	.4	
1,4-Dichlorobenzene	*	ND	0.036	0.56	**	п	•	"	4	
Hexachloroethane	•	ND	0.72	1.1	* .	ч	-	14	4	
Benzył alcohoł	•	ND	0.11	1.1	•	u	H	11	•	
Dibenzofuran	!!	ND	0.017	1.1	**	И	. *	•	•	
Nitrobenzene	•	ND	0,33	1.1	0	×		•		
1.2-Dichlorobenzene		ND	0.072	0.56	4		•	•	*	
2,4-Dinitrotolucne	n	ND	0.428	1.1	н	"	N .	n n	п	
Isophorone	n .	ND	0.046	1.1	u	n	•	и	н	
2-Methylphenol	u u	ND	0.080	1.1			•	u	и	
2-Nitrophenol	W	ND	0.048	1.1	•		al		u	
Diethyl phthalate	•	0.20	0.17	1.1	•		•		и	
3,4-Dimethylphenol	н	ND	0.024	1.1	• .		31	н	u	
Benzole acid	n ,	· ND	7.3	28	•	N	¥	pl	N	
4-Chloro-3-methylphenol	u .	ND	0.080	1.1	**	н	4	•1	•	
Bis(2-chloroethoxy)methane	N	ND	0.034	1.1	u	n	"		4,	
2,4-Dichlorophenol	•	ND	0.034	1.1			•		u	
2-Methylnaphthalene		ND	0.026	0.23	i+			Į.		
1,2,4-Trichlorobenzene	4	ND	0,14	0.56	P	u	•	n	u	
Hexachlorocyclopentadiene	W.	ND	0.029	IJ	le .	*		-	4	
2,4,6-Trichlorophenol	4	ND	0.045	1.7	19	н .		ч.,	92	
Fluoranthene	ь	ND	0.014	0.23	"	*	•	re	,,	
Naphthalene		ND	0.025	0.23	•	N	*	•	P	
2,4,5-Trichlorophenol	p	ND	0.048	1.1	a		•	**	el	
4-Chloroaniline	•	ND	0.12	1.1	D	**	Ħ	1}		
Pyrene	•1	0.089	0.016	0.23	**		•	M		
2-Chloronaphthalene	•	ND	0.020	0.23		41	• .	U		
Butyl benzyl phthalate	u	ND	0.35	1.1		-	**	μ .	**	
Hexachlorobutadiene	u	ND	0.10	0.56	wi	•		*	•	
2-Nitronniline	e e	ND	0.047	1.4	4)	•	u	•	4	
Dimethyl phthalate		ND	0.047	1.1	*	*	н	N	*	
Acenaphthylene	н	ND	0.078	0.23	**	•	н			
2,6-Dinitrololuene	N	ND	0,046	1.1	**	*1		-	. 4	

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd, Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-20	(GTP1-2.5-082709)		So	il		Sam	pled: 08/	27/09 09:20			
3-Nitroaniline		8270C STD Dry	ND	0.065	1.1	m <u>u</u> /Kµ dry	10x	50042	09/10/09 17:52	09/15/09 17:27	
4-Chlorophenyl phe	myl ether	и ,	ND.	0.064	1.1	**		U	*1	*	
Acenaphthene			ND	0.018	0.23			ıı	4	be .	
2.4-Dinitrophenol	•	u	ND	0.16	11	*		ıı	•	н	
Pluorene		н	ND	0.014	0.23		4	u	h	a	
4-Nitroaniline		'n	ND	0.16	1.4	H		и	n	41	
4-Nitrophenol		и	ND	1.9	11	w		44	41	u	
4,6-Dinitro-2-methy	iphenol		ND	0.20	11		a	и		"	
N-Nitrosodiphenyla	mine		ND	0.025	0,56	п	1	I+	4	•	
4-Bromophenyl phe	nyl ether	ч	ND	0,037	LJ	'n	14	14		*	
Hexachlorobenzene		n .	ND	0.043	0.56	41	н	u	•	*	
Pentachlorophenol		4	ND	0.14	1.1	4	*	•	и	•	
3,3'-Dichlorobenzidi	ine	a	ND	0.089	2.3			"	4	H	
Phenanthrene		u	ND	0.024	0,23		•	u	*	•	
Anthracene			ND	0.016	0.23			ú	•		
Benzo[a]anthracen	<u>e</u>	# "	0.10	0.019	0.28		м	n	"	•	
Chrysene			0.11	0.016	0.28		•			H	
Di-n-butyl phthalate			ND	0.29	2.3		4	n	•	-	
Bis(2-ethylhexyl) ph	thalate	b	ND	0.47	17	D			•	•	
Di-n-octyl phthalate		Я	ND	0.015	2.3	**		#	4	н	
Benzo[a]pyrenc		я	ND	0.024	0,34	b)	u	н		p.	
indeno[1,2,3-cd]pyr	ene		0.060	0.047	0.45	*	•	P	a 1	•	
Dibenz(a,h)anthracer	te .	•	ND	0.025	0.45	,,	**		•	. "	
Benzo(g,h,i)perylen	e		0.18	0,017	D.2B		•1		**	и	1
Carbazole		•	ND	0.048	1.7	"	••	u	*	u	
l-Methyinaphihaler	1e	H	0.023	0.020	0.34	P	P	4		(P	J
Benzo[b]fluoranthen	е	н ,	ND	0,046	0,23	н			•	10 .	
Benzo[k]ຄົນoranthen	ē	*	ND	0.015	0.28			10	,,	•1	
2,2'-oxybis[1-chiorop	propane]	•	ND	0.076	1.7	и		*	٠.	. "	
Surrogate(s):	2-Fluorophenol			11%		36 -	145 %	*		" D.	x
	Phenol-d5			0%			149 %	*		" D.	X
	Nitrobenzene-d5			0%			141%			" D.	x
•	2-Fluorobiphenyl			0%			140%	et et			X
	2,4,6-Tribromophenol			0%			143 %			" D.	
	Terphenyl-d14		-	0%		42 -	151%	n		" D.	X

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

(8300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-21 (GTP5-11-082	809)	Sol	iI		Samp	led: 08/2	8/09 09:37			
Bis(2-chloroethyl)ether	#270C ST'D Dry	ND	0.022	0.22	mg/Kg dry	10x	50042	09/10/09 17:52	09/15/09 18:30	
Phenol		ND	0.016	0.22	" .	**	. "		v	
2-Chlorophenol	u	ND	0.016	0,22		0	•		40	
3 & 4 Methylphenol	"	ND	0.012	0.44		**	U		. "	
1,3-Dichlorobenzene	u	ΝĐ	0.016	0.11	o	ø			ü	
N-Nitrosodi-n-propylamine	u	ND	0.027	0.22	•	"	ń	•1	u	
1,4-Dichlorobenzene	W	ND	0.0070	0.11	•	*		•		
Hexachloroethune	•	ND	0.024	0.22	•	н	H		(*	
Benzyl alcohol	Ч	ND	0.021	0.22	.*		•	n	N	
Dibenzofuran	ч	ND	0.0033	0.22	•		**	n ·	-1	
Nitrobenzene	•	ND	0.064	0.22				"	1)	
1,2-Dichlorobenzene	•	ND	0.014	0.11		**	μ	н	•	
2,4-Dinitrotoluene	•	ND	0.0055	0,22	•	4	10	-	п	
Isophorone	и	ND	0,0090	0.22		и	"	-	(I	
?-Methylphenol	0	ND	0.016	D,22	4	*	н	H	•1	
2-Nitrophenol	x	ND	£0094	0.22	•	~	44	*	•1	
Diethyl phthalate	M	ND	0,033	0.22		•	*	v		
4-Dimethylphenol		ND	0.0046	0.22	•	-	**		•	
Benzoic acid	h	ND	1.4	5.5	н	-	ŧ	ш		
-Chloro-3-methylphenol	н	ND	0.016	0.22		u	п	ú	**	
Bis(2-chloroethoxy)methane		ND	0,0066	0,22	•		и		и	
.4-Dichlorophenol		ND	0.0066	0,22	•			*	•	
-Methylnaphthalenc	м	ND	0.0050	0.044	=1	4		•	N	
.2,4-Trichlorobenzene	M	ND	0.026	0.11	•	п	*	•1	M	
lexachtorocyclopentadiene	•	ND	0.0057	0,22		4	•	ľ	*	
2.4.6-Trichlorophenol	*	ND	0.0088	0.33	19	**	61	u	*	
luoranthene		ND	0,0026	0,044		4			•	
iaphthaiene		ND	0,0048	0.044		٠.,		•		
4.5-Trichlorophenol	•	ND	0,0094	0.22	ч	•	D	u		
-Chloroaniline	'n	ND	0.024	0,22	, a		11	n	M	
утене	n	0.012	0.0031	0.044	D	u	n	*	•	
-Chloronaphthalene	•	ND	0.0039	0.044	a	н	11	u	•	
utyl benzyl phthalate	4	ND	0.068	0.22	10			- 4		
lexachlorobutadiene		ND	0.020	0.11	*	•	u	er.	•	
-Nitroaniline	4	ND	0.0092	0.22	•	•		n	0	
Dimethyl phthalate	al	ND	11,0092	0,22	•		•	•	ъ	
cenaphthylene	R	ND.	0,003.5	0,044		н.	4	u	ь	
&-Dinitrotoluene	D.	ND	0.0090	0.22	h			11	"	

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

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Project Name:

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Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-21 (GTP5-11-082809)		Soi	1		Sam	pled: 08/	28/09 09:37			
3-Nitroaniline	8270C STD Dry	ND	0.013	0,22	mg/Kg dry	10x	50042	09/10/09 17:52	09/15/09 18:30	
4-Chlorophenyl phenyl ether		ND	0.013	0.22	•	*	P	le	•	
Adenaphthene	u	ND	0.0035	0,044	•	•	Þ	10	н	
2,4-Dinitrophenal	п	ND	0.031	2,2	•	•	Þ	16	ч	
Fluorene	n	ND	0.0026	0.044		•	*	nt nt	и	
4-Nitroaniline		ND	0.03 /	0.22	4		•	•	l+	
4-Nitrophenol	P.	ND	0.37	2.2	a	•	•1	u	14	
4,6-Dinitro-2-methylphenol	a	ND	0.039	2,2	0	•		ч	44	
N-Nitrosodiphenylamine	ur .	ND	0.0048	0.11	u	b	**	(tr	*	
4-Bromophenyl phenyl ether		ND	0.0072	0.22	*	•	*	•	-	
Hexachlorobenzene		ND	0.0083	0.11	"	U	*		"	
Pentachlorophenol	n .	ND	0.026	0.22	D	u	۲		4	
3.3'-Dichlarobenzidine	II .	ND	0,017	0.44		п	•	в	.u	
Phenanthrene	p	ND	0.0046	0.044		U	*	4		
Anthracene		ND	0.0031	0.044	"		•		10	
Benzo[a]anthracene	н	ND	0.0037	0,055			"	а		-
Chrysene	u	ND	0.0031	0.055	Ħ	. "	н		и	
Di-n-butyl phthalate	11	. ND	0.057	0.44	11	•	4	44	H	
Bis(2-ethylhexyl) phthalate	41	ND	0,092	3.3		"	4	a	ıı	
Di-n-octyl phthalate		ND	0.0029	0.44	· n	•	•	. "	"	
Benzo[a]pyrene		ND	0.0046	0.066		4	•	• 4	**	
Indeno[1,2,3-ed]pyrene	• *	NĎ	0,0092	0,088	ъ .	· ·		, н	"	
Dibenz(a,h)anthracene	w .	ND	0.0048	0.088	4		*	*	н .	
Benzo[g,h,i]perylene		ND	0.0033	0.055			**	*		
Carbazole	**	ND	0,0094	0.33		U	•		W	
I-Methy Inaphthalene	et	ND	0.0039	0.066	п	и		14	r e	
Benzo[b]fluoranthene	4	ND	0,0090	0.044	4		•	н		
Benzo[k]fluoranthene	•1	ND	0.0029	0.055	,	n		•	•1	
2,2'-oxybis[I-chloropropane]	•	ND	0.015	0.33	,	n	•	*	N	
Surrogate(s): 2-Fluorophenol			0%		36	- 145 %	N		" D.	×.
Phenol-d5			0%			149%		•	" D.	
Nitrobenzene-d5			09%		38 -	141 %	ri .		" D.	
2-Fluorobiphenyl			0%			- 140 %	"		" D	
2,4,6-Tribromophenol			0%			- 143 %			" D.	X
Terphenyl-d14			0%		42 -	. 151 %	**		" D.	x

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03

Report Created:

Doug Morell

hun -- a ta gwa - hw/M/a sa

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-22 (TS-COMP-1)		So	it		Samp	led: 08/2	7/09 18:10			
Bis(2-chloroethyl)ether	8270C STD Dry	ND	0.023	0,24	mg/Kg ժry	10x	50042	09/10/09 17:52	09/15/09 18:50	
Phenol	•	ND	0.018	0.24	•	ĸ	N	U	4	
2-Chlerophenol	-	ND	0.018	0.24	••	•	**	•	•	
3 & 4 Methylphenol		ND	0.013	0.47		*	*	N	"	
1,3-Dichlorobenzene	h	ND	0.017	9.12	•	**	•	•	ı	
N-Nitrosodi-n-propylamine	İt	ND	0.023	0.24	*	u	и	*	и	
I.4-Dichlorobenzene	tı.	ND	0.0076	0,12	a	11	*	4	n	
Hexachloroethane	ii.	ND	0.026	0.24	4		"	•		
Benzyl alcohol	ti .	ND	0.023	0.24	*	а	H	*	41	
Dibenzofuran	u_	ND	0.0035	0.24		a	**		*	
Nitrobenzene	, и	ND	0.069	0.24	0		P I	-	ie .	
.2-Dichlorobenzene	Ø	· ND	0.015	0.12	10	и	•		μ	
.4-Dinitratoluene	h	ND	0.0059	0,24		16	•	-		
sophorone	n	ND	0.0097	0.24	*	a	•	•		
-Methylphenol	p	ND	0.017	0.24	14	۹.	P	н .	H	
-Nitrophenol		ND	0.010	0.24	e	•	- н	•	ų	
iethyl phthalate	μ	ND	0.035	0.24	44	•1	4	•	*	
.4-Dimethylphenol		ND	0.0050	0.24	•	•			n	
enzoic acid	P	ND	1,5	5.9	н	-	•	- '	-	
-Chloro-3-methylphenol	ú	ND	0.017	0.24	н	•	4		н	
is(2-chloroethoxy)methane	D	ND	0.0071	0.24	**	4	•	*	w	
4-Dichlorophenol	n	ND	0.0071	0.24	u	•1	••		н	
-Methyinaphtimiene		4.6	0.0054	D.047		•	•1	•	u	
2.4-Trichlorobenzene	u	ND	0.028	0.12	n	n	*	n	u	
exachtorocyclopentadiene	u	ND	0.0462	0.24	n		41	, n	n	
4.6-Trichlorophenol	и	ND	0,0095	0.35	p	н	п	d	n .	
luoranthene	* ,	0.072	0.0028	0.047	•	4	*11	•		
aphthalene	N	0.19	0.0052	0.047	•1	•	۳ .	•	u	
4.5-Trichlarophenal	*	ND	0.070	0.24	•			•	n .	
Chloroaniline	P	ND	0.026	0.24		, .	**	"	ü	
rene	•	0.13	0.0033	6.047	н	•	0		n	
Chloronaphthalene		ND	0.0043	0.047	п	P	U		ŋ	
utyl benzyl phthalate	4	, ND	0.073	0.24	P		"	n		
exachlorobutadiene		ND	0.022	0.12			"	"	и	
Nitroaniline	u	ND	0.0099	0.24			u	u	и	
imethyl phthalate	п	ND	0,0099	0.24	н	•	н		U	
cenaphthylene		ND	0.0038	0.047	N	*	4		u	
6-Dinitrotoluene	P	ND	0.0097	0.24			p.	н		

TestAmerica Spokane

The results in this report apply to the samples analyzed in occardance with the claim of custody discussed. This analytical report must be represented in its entirety.





11922 E. 15T ÁVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200 Redmond, WA 98077 Project Name: Project Number: Avery Landing 073-93312-03

Project Manager: Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-22 ((TS-COMP-1)		Soi	1		Sam	pled: 08/	27/09 18:10			
3-Nitroaniline		8270C STD Dry	ND	0.014	0,24	mg/Kg dry	10x	50042	09/10/09 17:52	09/15/09 18:50	
4-Chlorophenyl phe	nyl ether -	14	ND	0.073	0.24		•		ч	•	
Acenaphthene		D	0,81	0.0038	0,047	"	"		₹7	44	
2.4-Dinitrophenol		а	ND	0.033	2.4	*	"	н	•	4	
Fluorene		le .	1.2	0.0028	0.047		n		H	•	
4-Nitroaniline		p.	ND	0.033	0.24	•	н		•	•	•
4-Nitrophenol		þ	ND	0.10	2.4			n	•	a	
4.6-Dinitro-2-methyl	lphenol	•	ND	0.043	3.4		•	•	41	u	
N-Nitrosodiphenylar	mine	(t	ND	0.0052	0.12		В	•	4	*	
4-Bromophenyl pher	ıyl ether	. я	ND	0.0078	0,24	0	•		к	*	
Hexachiorobenzene		u	ND	0,0090	0.12			n	ь	4	
Pentachlorophenol		. •	ND	0.028	0.24	16	•	"	и	•	
3.3'-Dichlorobenzidi:	ne '		ND	0.019	0.47	b	-	n		9	
Phenanthrene			1.6	0,0050	0.047			D	п	•	
Anthracene			0.11	0,0033	0.047		*		*		
Beuzo[a]anthracenc	:	•	0.049 ゴ	0,0040	0.059		-		•	•	
Chrysene			0.088	0.0033	0.059	-	•	. •	n	u	
Di-n-butyl phthalate		*	ND	0.062	0.47	4	•	11	н	u	
Bis(2-ethylhexyl) phi	lhalate	•	ND	0.099	3.5		*	*	n	i.	
Di-n-octyl phthalate		4	ND	0,0037	0.47	*	*		h	4	
Benzo a pyrene			0.021	0.0050	0.071		•	*		H	
Indeno[1,2,3-cd]pyre	ine		ND	0,0099	0.095	•	•	•	u	u	
Dibenz(a,h)anthracen		"	ND	0,0052	0.095		ч		u	"	
Benzo[g,h,i]perylene		II .	ND	0.0035	0.059	•	D	a a		٠	
Carbozole		U	ND	0.010	0.35	*		,,	и	4	
i-Methylnaphthaicn	le.		5.5	0.0043	0,071			u	16	*	
Benzo[b]fluoranthene		-	ND	0,0097	0.047	10	-		μ	lı .	
Benzo[k]fluoranthene		a	ND	0,003 (0.059		u	n	n		
2.2'-oxybis[I-chlorep		u	ND	0.016	0.35	•	ā	"		•	
Surrogate(s):	2-Fluorophenol				•		145%	· ·		# n	
•	Phenol-d5			0%			149 %	ei			x X
	Nitrobenzene-d5			0%			141%	n			x
	2-Fluorobiphenyl			0%			140 %	II .		'	X
	2,4,6-Tribromophenol			0%		28 -	143 %	N			X
	Terphenyl-d14			0%		42 -	151%	N			X

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99205-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

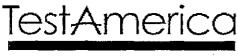
TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-23 (TS-COMP-2)		So	il		Samp	led: 08/2	27/09 18:28			
Bis(2-chloroethyl)ether	8270C STO Dry	ND	0,022	0.22	mg/Kg dry	IO _N	50042	09/10/09 17:52	09/15/09 19:11	
Phenol	•	ND	0,016	0.22		•	*	ч	4	
2-Chlorophenol	w	ND	0.016	0,22	В	•	*	4	a	
3 & 4 Methylphenol	u	ND	0.012	0,44	b		H	•	u	
1,3-Dichlorobenzene	. #	ND	0.016	0.11	D	ı	H	•	ti ti	
N-Nitrosodi-n-propylamine	•	ND	0.021	0.22	u.		*	•	u	
1,4-Dichlorobenzene	•	ND	0.0070	0.11		Р	11	•	a	
Hexachloroethane	•	ND	0.024	0,22			91		N	
Benzyl alcohol	ų	ND	0.027	0.22	•		**	•	н	
Dibenzofuran	u	ND	0.0033	0.22			•	•		
Nitrobenzene		ND	0,063	0,22	H		4	•	-	
,2-Dichlorobenzene	•	ND	0.014	0,11	•	•	п	•	44	
.,4-Dinitrotoluene	π	ND	0.0055	0.22			an an		«I	
sophorane		ND	0,0090	0.22	P	"	41	•	н	
-Methylphenol	"	ND	0.016	D.22		•	at	*	n	
-Nitrophenol		ND	0.0094	0.22		u	v	•	4	
Piethyl phthalate	٩	ND	0.033	0.22	р	п	υ,	41	•	
4-Dimethy(pheno)	, "	ND	0.0046	0,22		•	n	41	•	
ienzoic acid	н	ND	1.4	5.5		•	"	•		
-Chloro-3-methylphenol		ND	0.016	0.22		•	p			
is(2-chloroethoxy)methane	P.	ND	0,0066	0,22		.,	h		•	
,4-Dichlorophenol	D	ND	0.0066	0.22	н	*1	μ	и	•	
-Methylnaphthalene	•	9.5	0.0050	0.044		n		H	•	
2,4-Trichlorobenzene	"	ND	0.026	0.11	. *	n	Ħ,	" .	wr.	
lexachlorocyclopentadiene	u	ND	0,0057	D.22		в	u		н.	
4.6-Trichlorophenol	и .	ND	0.0087	D.33		þ	ч	•	b	
luoranthene		0.54	0,0026	0.044	1)	ài .	u	H	n	
aphthalene	•	0.83	0.0048	0.044		**	н	4	п	
4,5-Trichlorophenol	n .	ND	0.0094	0.22		**	u	h	11	
-Chloroaniline	•	ND	0.024	0.22						
yrene		0.57	0.0031	0.044	н	n	*	. "	b	
Chloronaphthalene	n .	ND	0,0039	0.044	H	и '	9	н .	H	
utyl benzyl phthalate		ND	0,068	0.22	н	u	*1		-	
exachlorobutadiene	,,	ND	0.020	0.11	*	"	•			
Nitroaniline ·		, ND	0.0092	0.22	•	ш	•	•		
imethyl phthalate	9	ND	0,0092	0.22		ü		•		
cenaphthylene	41	ND	0,0035	0.044	•	ú	p	•		
6-Dinitrotoluene	4	ND	0,0090	0,22	4	н		ч		

TestAmerica Spokane

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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

THE LEADER IN ENVIRONMENTAL TESTING

Avery Landing Project Name:

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-23 (TS-COMP-2)		So	ii		Sam	pled: 08/	27/09 18:28			
3-Nitroaniline	8270C STD Dry	ND	0.013	0.22	mg/Kg dry	10x	50042	09/10/09 17:52	09/15/09 19:11	
4-Chlorophenyl phenyl ether	v	ND	0.012	0.22		•	•	"	•	
Acenaphthene	•	1.5	0.0035	0.044	Р		n	11	•1	
2,4-Dinitrophenol	n .	NĐ	0.037	2.2	11-	**		н	п	
Fluorene		2.6	0.0026	0.044		•	n		p	
4-Nitroaniline	,	ND	0.03 /	0.22	u	*1	•1	ч	40	
4-Nitrophenol		ND	0.37	2.2	u	-			u	
4,6-Dinitro-2-methylphenol	•	ND	0.039	2.2		ш	*	H	п .	
N-Nitrosodiphenylamine		ND	4.0048	0.11	n	•1	w		*	
4-Bromopheny) phenyl ether	*	ND	0.0072	0.22	д	-	*		ન	
Hexachlorobenzene		ND	0.0083	0.11	•				*	
Pentachlorophenol		ND	0.026	0.22	•		-		•	
3,3'-Dichlorobenzidine		ND	0.017	0.44	41	0		н	÷	
Phenanthrene	н	4.7	0,0046	0.044	*	=1	n n	•	•	
Anthracene		0.28	0.0037	0.044	16	H	4	et	•	
Benzojajauthracene		0.10	0.0037	0.055	•			, p		
Chrysene	•	0.26	0.0031	0.055		u		•		
Di-n-butyl phthalate	•	ND	0.057	0.44	w		u		*	
Bis(2-ethylhexyl) phthalate		ND	0.092	3.3	#		•			
Di-n-octyl phthalate		0.054	0,0028	0.44		"		•	*	
Benzolajpyrene	и.	0.077	0.0046	0.066	•			61	ч	
Indeno[1,2,3-ed]pyrene	•	ND	0.0093	0.087			•	•	#	
Dibenz(a,h)anthracene	jt.	ND	0.0048	0.087	и		-	•	H	
Benzoig,b,ilperylene	. (4	0.036	0.0033	0.055	w	-	•	ν	*	
Carbazole	ii .	ND	0.0094	0.33	.,	м	H	н	aj.	
I-Methylnaphtimiene	4	10	0.020	0.33	-	50x	•	1	09/16/09 14:08	
Benzo[b]fluoranthene	"	ND	0,0090	0.044		10x	0		09/15/09 19:11	
Benzo[k]fluoranthene	a	ND	0,0028	0.055	**			. 4	w	
2,2'-oxybis[1-chloropropane]	r.	ND	0.015	0.33	•		•	tı	*	
Surroyate(s); 2-Fluorophenol			0%	, ,	36 -	145 %			<u> </u>	
Phenol-d5			0%			149 %	D.	•		. X
Niprobenzene-d5			0%		38 -	141 %	"		_	X
2-Fluorobiphenyl			0%			140 %			١	X
2,4,6-Tribromopheno	ol .		0%			143 %	n		" D	<i>x</i> ·
Terphenyl-d14			0%		42 -	151 %	n		" D.	X

TestAmerica Spokane

The residis in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report most be represented in its entiresy.





Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-24 (TS-COMP-3)		Soi	il		Samp	led: 08/2	7/09 16:40			
Bis(2-chloroethyl)ether	8270C STO Dry	ND	0.11	1,1	mg/Kg dry	10x	50042	09/10/09 17:52	09/15/09 19:32	
Phenol	ų	ND	0.087	1,1	t u			-	41	
2-Chlorophenol	II	ND	0.087	1.1	H	•	11	U	ú	
3 & 4 Methylphenol	•	ND	0.061	2.2	ь		ú		•	
1,3-Dichlorabenzene	•	ND	0.079	0.55	, "	и .	**	•	•1	
N-Nitrosodi-n-propylamine	• .	ND	0.11	1.1			•	•	41	
I ,4-Dichlorobenzene	U	ND	0.035	0.55		N .	,	**	11	
Hexachloroethane	ú	ND	0.12	1.1	,	N	n	4	u	
Benzyl alcohol	ψ .	ND	0.71	1.1	R)	п		•	· a	
Dibenzofuran		ND	0.016	1.1	v		۴	4	u	
Nitrobenzene	ly .	ND	0.32	1. t	•	i•	b		U	
2-Dichlorobenzene	н ,	ND	0,070	0.55	*		*		. *	
2,4-Dinitrotoluene	н	ND	0,027	1.1	"		•	•	T .	
Isophorone	ri	ND	0.045	1.1	•	4	4	ч ,	•	
2-Methylphenol		ND	0.078	1.1	*	11	0		, n .	
-Nitrophenol		ND	0.047	1.1	•	"	'n		u	
Diethyl phthalate		ND	0.16	1.1	P	4	*	a a	"	
4-Dimethylphenol	tr	ND	0.023	1.1	ø	*	1	44		
Benzoic acid	₩.	NĐ	7.1	27	•	n		•	n	
-Chloro-3-methylphenol	••	ND	0.078	1.1	•	*	*		н	
3(s(2-chloroethoxy)methane	jı .	ND	0.033	1.1	•	•	* .	•	4	
4-Dichlorophenol	u	ND	0.053	1.1	•)1	п		D	
-Methylnaphthalene	н	0.38	0,025	0.22		н	#I	•	ri(
,2,4-Trichiorobenzene	n	ND	0.13	0.55		-	В	"	•	
lexachlorocyclopentadiene	ч	ND	0.029	1.1		1)	U	•	H	
.4.6-Trichlorophenol		ND	0.044	1.6	lq.	P	н	4	n	
luoranthene		ND	0.013	0.22	la	4	•	н	ч .	
laphthalene	t	ND	0.024	0.22	*	*1	• .	•		
4.5-Trichlorophenol	4	ND	0.047	1.1	ч	н	(1	**	*	
-Chloroaniline	•	ND	0.12	1.1	٠		•	lı .	•	
yrene	н	0.19	0.015	0.22	4	п	4	"		
-Chloronaphthalene	in ·	ND	0.020	0.22	h	N	"		H	
atyl benzyl phthalate	-	ND	0.34	1.1	4	D	•	P	.	
[exachlorobutadiene	*1	ND	0.10	0,55	*	н	•		n	
-Nitroaniline	91	ND	0.046	1.1	•	•	*	*)	• .	
Dimethyl phthalate	0	ND	0.046	1.1	•	4			*	
cenaphthylene	6	ND	0.018	0,22			•		P	
.6-Dinitrotoluene	"	ND	0.045	1.1	н	11		н	п	

TestAmerica Spokane

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THE CEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number:

Project Manager:

Avery Landing

073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Annlyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-24 (TS-COMP-3)		Soi	1		Samp	led: 08/2	27/09 16:40			
3-Nitronniline	8270C STD Dry	ND	0.064	LI	mg/Kg dry	10x	50042	09/10/09 17:52	09/15/09 19:32	
4-Chlorophenyl phenyl ether	n n	ND	0.063	1.1	*)	••	*1	H		
Acenaphthene		0.20	0.018	0.22		•		n		1
2,4-Dinitrophenol	u ´	ND	0.15	- 11	"	"	•	•	*	
Fluorene	41	0.52	0.013	0.22	II.	đ		N	u	-
4-Nitroaniline	и	ND	0.15	1.1	*	*		u	D	
4-Nitrophenol	*	ND	1.9	11	*	•	u	"	*	
4,6-Dinitro-2-methylphenol	н	· ND	0.20	П	II.	ы	я	u	•	
N-Nitrosodiphenylamine		ND	0.024	0.55	"	•	H		•	
4-Bromophenyl phenyl ether	91	ND	0.036	IJ	4	n	n	44		
Hexachlorobenzene	al	NĐ	0.042	0.55		н		41	u	
Pentachlorophenol	•	ND	0.13	1.1		*		, #		
3,3'-Dichlorobenzidine	ıt	ND	0.087	2.2	4	-	•		-	
Pirenanthrone	u	0.47	0.023	0.22		•	•	ч	•	
Anthracene	11	0.068	0.015	0.22	11	•	*	*1	•	J
Benzo[a]anthracene	ø	ND	0.019	0.27	•		4	11	b	
Chrysene	4	ND	0.015	0.27	н		u			
Di-n-butyl phthalate	*	ND	0.29	2.2	4	*	"	•	•	
Bis(2-ethylhexyl) phthalate		ND	0.46	16		-	-	*	•	
Di-n-octyl phthalate	u .	ND	0.014	2.2	•	-	**	. "	**	
Benzo[a]pyrene	u	ND	0.023	0,33	p	-	*		u	
Indeno[1,2,3-cd]pyrene	•	ND	0.046	0.44	4		•	H	18	
Dibenz(n,h)anthraceae		ND	0.024	0.44	η	-	•	u .	, .	
Benzo[g,h,i]perylene	μ	ND	0.016	0.27	"	-	n	4		
Carbazole	ı	ND	0.047	1.6	*			-	4	
I-Methylpaphthalene	H	0.78	0.020	0.33	-	ů.	h	. "	-	
Benzo[b]fluoranihene	н	ND	0.045	0.22	n	a	ч	ėl.	*	
Benzo[k]fluoranthene	и	ND	0.014	0.27	ш	tr	4	•	*	
2.2'-oxybis[1-chloropropane]	4	ND	0.073	1.6	li .			u		
Surrogate(s): 2-Fluorophenol			0%	•	36 -	145 %			, , , , , , , , , , , , , , , , , , ,), X
Phenol-d5			0%			149 %	n		44). X). X
Nitrobenzene-d5			0%			141%	"			. X
2-Fluorobiphemyl			0%		42 - 1	140 %	n		" D), X
2,4,6-Tribromopheno	i		0%			143 %	*1		n n	. <i>X</i>
Terphenyl-d14			0%		42 - 1	151%	n		" · n	. <i>X</i>

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created;

10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-25 (GTP4-6-0-082709)		So	il		Samp	oled: 08/	27/09 15:49			
3-Nitroaniline	8270C STD Dry	ND	0.0064	0.11	mg/Kg dry	10 _K	50042	09/10/09 17:52	09/15/09 19:53	
4-Chlorophenyl phenyl ether	4	ПN	0.0063	Œ11	в	41	•	ų	•	
Acenaphthene	*	ND	0.0018	0.022	и	μ		le.	п	
2.4-Dinitrophenol	n	ND	0.015	เส	*	,	n	h	. 11	
Fluorene		ND	0.0013	0.022	D	n	•	ú	•	
4-Nitroaniline	u	ND	0.015	0.11	n	u	* .	•	4	
4-Nitroplienol	ía.	ND	0.19	1.1	•	*1		4		
4,6-Dinitro-2-methylphenol	••	ND	0.020	1.1	-	ıı.	* .	. "	*1	
N-Nitrosodiphenylamine		ND	0.0024	0,055	*		*	"	n	
4-Bromophenyl phonyl ether	u ·	ND	0.0036	0.11	4	*		h ₁	n	
Hexachlorobenzene		ND	0.0042	0.055	4	#	ń	ч		
Pentachlorophenol	4	- ND	0.013	0.11	4	,,	**	*	**	
3,3 -Dichlorobenzidine	н	ND	0.00X7	0.22	b	×	μ	n	•	
Phenanthrene	*	0.0077	0.0023	0.022		•		*1	Ð	
Anthracene	н	0.0052	0.0015	0.022		a	•	11	н	
Benzojajanthracene	•	0.010	0.0019	0.027	tr	11	H	ti	"	•
Chrysene	. •	0.014	0.0015	0.027	*	"	•	82	•	
Di-n-butyl phthalate	•	ND	0.029	0,22		•	•	•	11	
Bis(2-ethylhexyl) phthalate	•	ND	0,046	1.6	•	D	41	**	•	
Di-n-octyl phthalate	•	ND	0.0014	0.22	h	4	4;	ti-	•	
Benzolalpyrene	u	0.010	0.0023	0,033	11	н	. •	M	H	j
Indeno 1,2,3-cd]pyrene	*	0.0047	0.0046	0.044	"		n	•1	и	J
Dibenz(a.h)anthracene	п	ND	0.0024	0.044	11	"		•	•	
Benzo[g,h,i]perylene	•	0.0060	0.0016	0,027		•	•	4	•	
Carbazole	н	ND	0.0047	0.16	*	р	•	"	4	
1-Methylnaphthalene	. 11	ND	0.0020	0.033	2)	•	10	M		
Benzoj bj fluoranthene	P	0.0076	0.0045	0.022		RP .	а	н	п	J
Benzo[k]fluoranthene	n	0.0058	0.0014	0.027	" .	٠.		*	•	. J
2,2'-oxybis[1-chloropropane]	r	ND	0.0074	0.16	•1	ч		*	•	
Surrogate(s): 2-Fluorophenal			U%		36 -	145%	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Phenol-d5	-		0%			149%				. X
Nitrobenzene-d5			0%			141%	**			. ^), X
2-Fluorobiphenyl	* *		0%		42 -	140%	.,			. <i>X</i>
2, 4, 6-Tribromophenoi	!	,	0%			143 %				. X
Terphenyl-d 4			0%		42 -	151%	"		· " D	. <i>X</i>

TestAmerica Spokane

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Randee Decker, Project Manager

Page 161 of 220



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-25 (GTP4-6.0-082	709)	So	il		Samp	led: 08/2	27/09 15:49			
Bis(2-chloroethyl)ether	\$270C STD Dry	ND	0.011	0.11	mg/Kg dry	l Dx	50042	09/10/09 17:52	09/15/09 19:53	
Phenol	•	ND	0.0081	11.0	*	4		н	•	
2-Chlorophenol	u	ND	0,0087	0.11	**	4	U	и		
3 & 4 Methylphenol	μ	ND	0.0061	0,22	#1	И	4	41		
1.3-Dichlorobenzene	. #	ND	0.0079	0.055	*1	и	μ	•		
N-Nitrosodi-n-propylamine	*	ND	0.011	0.11	0	*	¥		٠ .	
I.4-Dîchlorobenzene		ND	0.0035	0.055		*	*	•		
Hexachtoroethane	r.	ND	0.012	0.11	tı	v	. •	•	u	
Benzyl alcohol	•	ND	0.077	0,11	li .	n	p	u	p	٠
Dibenzofuran	ч	ND	0.0016	0.11	и	u		n	,"	
Nitrobenzene	R	ND	0.032	0.11	*		(1	•	"	
1.2-Dichlorobenzene	D	ND	0.0070	0.055	41	#1			H	
2,4-Dinitrotoluene		ND	0.0027	0.11	n	**		μ	и	
Isophorone	п	ΝD	0.0045	0.11	11	n	ь	u	ri .	
2-Methylphenol	н	ND	0.0078	0.11	a	μ		P	N	
2-Nitrophenol		ДN	0.0047	0,11	я	u	u	*1	41	
Diethyl phthalate	**	0.019	0.016	0.11			•	•		1
2,4-Dimethylphenol	Pl .	ND	0.0023	0.11		*	. *			
Benzoic acid	ęl	ND	0.71	2.7	p	ŋ	ø	11		
4-Chloro-3-methylphenol	el .	ND	0,0078	9,11		ч	ņ	14	ft	•
Bis(2-chloroethoxy)methane	•	ND	0.0033	0.11	P	M	p.	•		
2,4-Dichlorophenol	•	ND	0.0033	0.11	•	*1			*	
2-Methylnaphthalene	.,	ND	0.0025	0.022	H	•1	•		*	
1,2,4-Trichlorobenzene	d	ND	0.013	0.055	п	U	D	м	•	
Hexachlorocyclopeniadiene	u	ND	0.0029	0.11	4	u	' и	el .		
2,4,6-Trichlorophenol	н	ND	0.0044	0.16	u	u	4	11		
Fluoranthene		0.017	0.0013	0.022			"			ı
Naphthalene	•	ND	0.0024	0.022		*	•		•	
2,4,5-Trichlarophenol		ND	4,0047	0.11	•	**	•	•	*	
4-Chloroaniline	if	ND	0.012	0.11	-	n	•	ić	H	
Pyrene	*	0.015	0.0015	0.022	"	*	b	*	*	1
2-Chloronaphthalene		ND	0.0020	0.022		*		-	•	
Butyl benzyl phihafate	P	ND	0.034	0.11	- N	•		•		
Hexachlorobutadiene		ND	0,010	0.055	н	47	N	*	н	
2-Nitroaniline	•	ND	0.0046	0.11	u	н	91	н	. •	
Dimethyl phthalate	•	ND	0,0046	D.11		и	•		71	
Acenaphthylene		ND.	0.0018	0.022		10	•	•	¥	
2,6-Dinitrotoluene		ND	0.0045	11.0	D.			•	я	

TestAmerica Spokane

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11922 E. 15T AVENUE SPOKÁNE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: **Avery Landing**

Project Manager:

073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

			TestAme	erica Tad	coma					
Analyte	Method	Result	€ MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-01 (GTP1-10.5-082709)		∕ Sc	oil		Samp	led: 08/2	7/09 09:40			
Bromomethane	8250B STD Dry	ND	0.00048	0.0012	mg/Kg dry	lx	49722	09/04/09 12:30	09/04/09 14:26	
Chloroethane	Ħ	ND	0.00033	0.0012	*	**			¥	
Chloromethane		ND	0.00022	0,0012	b	41	•		u	
trans-1,3-Dichloropropene	*	ND	0.00022	0.0012	fi	u	•	•	•	,
Chloroform	•	ИD	0.00018	0.0012	0	16	•	•	#	
Ethylene Dibromide	*	ND	0,00016	0,0012	u		•	•	••	
1,2-Dichloroethane	*	ND	0,00020	0.0012	u	*	P	н	u	
Carbon tetrachloride	*	ИD	0.00046	0.0012	tı	n			ıl	•
Trichloroethene		ND U	0.00022	0.0012	•		4	u	и	
1,2-Dichloropropane	D	ND	0.00021	0,0012	•	H	*	ч	и	
Dichlorobromomethane	D	ND	0.000092	0.0012	44	-	•		14	
cis-1,3-Dichloropropene	u	ND	0.00015	0.0012	al	•		•	•	
1,1,2,2-Tetrachloroethane	u	ND	0.00011	0.0025	a	п	a	η	*	
Bromoform		ND \$	0.000089	0.0012	¥		"	PI	4	
1.2.3-Trichloropropane	н	ND }	0.00045	0.0012	•	u	•	•	19	
1,2-Dibrome-3-Chloropropane	•	ND	0,00023	0.0025	*		•	n .		
Hexachlorobutadiene	•	ND 🔻	0.00042	0.0012	•		•	n	ы	
Surrogate(s): Toluene-d8 (Surr)			111%		2	115 %			"	
1,2-Dichloroethane-d4	(Surr)		176%			125 %	•			X. I
4-Bromofluorobenzene	(Sur)		81%		85 -	120 %	ri .		11	X. I
SSH0168-01RE1 (GTP1-10.5-082709	9)	Soi	ii		Sampl	led: 08/2	7/09 09:40	-		
I, I-Dichloropropene	8260B STD Dry	ND	0.0069	0.15	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 17:18	
1,2-Dichlorobenzene	"	ND	0.010	0.15	"	•		н		
4-Chlorotoluene	н	ND	0,050	0.15		В	*	•	ů.	
Bromomethane	#	ND	0.096	0.54	tı .	u	*	a _i	п	
Chloroethane	я '	ND	0.089	1.5	ii .	a	n	, п	n	
Dichlorodilluoromethane	11	ND	0.031	0.15	•	-	4		9	
tert-Butylbenzene	41	ND	0.012	0.15			n	ч		
1,2,4-Trimethylbenzene	1 .	ND	0.0081	0.15	*	-		4	h	
Chloromethane	4	ND	0.23	1,5	4	=	n.	•	•	
Trichlorofluoromethane	p	ND	0.019	0,15	•		10	je		
1.1-Dichloroethene	,B	ND	0.019	0,077		"	•	P		
sec-Butylbenzene	₩	0.41	0.019	0.15	n		u		D	
Vinyl chloride	u	ND	0.0066	0.031	-		и	н		
1,3-Dichlorobenzene	"	ND	0.019	0.15	e f	H	ri	u	н	
2.2-Dichloropropane	· u	ND	0.074	0.13				- · · •	·	
Mothylene Chloride		مستوقال السيد		0.15				iy .		

TestAmerica Spokane

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11922 E, 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-01RE1 (GTP1-10.5-	082709)	So	il		Samp	led: 08/2	7/09 09:40	 		
4-Isopropyltoluene	8260B STD Dry	0.13	0.011	0.15	mg/Kg đry	lx	49928	09/09/09 15:36	09/09/09 [7:18	
cis-1,2-Dichloroethene	H	ND	0.0093	0.15		•	•	*	41	
trans-1,2-Dichloroethene	h	ND	0.014	0.15			*	4	, "	
1,1-Dichioroethane		ND	0,013	0.15		*		a	N	
1.4-Dichlorobenzene	-	ND	0.019	0.15	n	0	"	40		
Chlorobromomethane	N	ND	0.046	0.15	*	•			u	
trans-1,3-Dichloropropene	31	ND	0,015	0.062	Þ	*	*	u	u	
Benzene	8	ND	0.0096	0,062		ei .	•	а	Ħ	
Chloroform	Ď.	ND	0.0081	0.15	•	n	"	*		
Ethylene Dibromide	u .	מא	0.012	0.15	•		٠	n	h	
1,1,1-Trichloroethane	u	ND	0.019	0.15	b	4	b	n	" .	
1,2-Dichloroethane		ND	0.0085	0.15	h	*	r	•	4	
Carbon tetrachloride	•	ND	0.014	0.077	n.	u	4	a	u.	
Trichloroethene	. п	ND	0.013	0.062	•	. "	*	P	. •	
1,2-Dichloropropane		ND	0.015	0.046	•	••		**	•	
Dibromomethane	•	ND	0.015	0.15		•		. "		
Toluene	, в	0.057	0.0093	0.15	n		•	(*	•	
Dichlorobromomethane	31	ND	0.012	0.15	H	**	. **	Ħ	И	
1,1.2-Trichloroethane	n	ND	0.0069	0.046				•		
cis-1,3-Dichloropropene	u	ND	0.0093	0.062	þ	•	ı,	n	•	
Chlorobenzene	4	ND	0.0089	0.15	ti	4	т.	*1	•	
Tetrachloroethene	li li	ND	0.0081	0.077	n	и	41	b	h	
1,3-Dichloropropane	H	ND	0.019	0.15	U	•		n	*	
Ethylbenzene	ь	0.081	0.014	0.15			•	•		
1,1,2-Tetrachlomethane	•	ND	0.019	Q.15	٠.			-	a	
Chlorodibromomeihane	4	ND	0.037	0.15	н .	•	*	**	4	
1,1,2,2-Tetrachloroethane	4	ND	0.013	0.039	H	•	•	ų	•	
m-Xylene & p-Xylene	P.	0.12	0.030	0.15	n		*	•	٠.	
o-Xylene		0.052	0.0089	0,15	н	•	M	v	۳.	
Styrene ·		ND	0.015	0.15	. *	•	* .	u	10	
Bromoform	*	ND	0.042	0.15	"	41	•	u		
Isop ropy i benzene	+	0.10	0,0069	0.15	41	10		4	*1	4
Bromobenzenc	ly	ND	0.070	0.15	(1	ď	**		·- ·-	
N-Propy lbenzene	ь	0.094	0,011	0,15	"	4		τι	•1	.1
1,2,3-Trichtoropropane	•	ИD	0.045	0,15	41	•	**	•		
2-Chlorosoluene		ND	0.021	0.15				•	h	
L3.5-Trimethy/benzene	·	D	0.016	0.15		-		n		
n-Butylbenzene	, D	ND	0.028	0.15	н		4	e		
1,3-Dibromo-3-Chloropropane	N	ND	U.25	0.77	н	*		н	•	

TestAmerica Spokane

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11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924-9200 fax: (509) 924-9290

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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-01RE	1 (GTP1-10.5-08270	9)	So	il		Samp	led: 08/	27/09 09:40			
1,2,4-Trichlorober	nzene	(1	סא	0.019	0.15		н	•		A .	
1,2,3-Trichiorober	nzene	a	ND	0.019	0.15	•	*	*	•	μ	
Hexachlorobutadio	enė	et .	ND	0,022	0.15	•		#1	ali	4	
Naphthalene		D	ND	0,023	0.15		9 '			I ę	
Surrogate(s):	Toluene-d8 (Surr)			98%		25.	115%	,		· · · · · - · · · · · · · · · ·	
um ogujejsy.	Ethylbenzene-d10			110%		-	125 %	н		W	
	4-Bromofluorobenzene	(Surr)		100%			120%	H		ø	
	Fluorobenzene (Surr)			106%		75 -	125%	at .		ri	
SSH0168-02	(GTPI-13.5-082709)		Soi	1		Samp	led: 08/2	27/09 10:10			
Bromomethane		8260B STD Dry	ND	0.00037	0.00095	mg/Kg dry	İx	49722	09/04/09 12:30	09/04/09 14:50	
Chloroethane		6	ND	0.00026	0.00095	lt	n,		n	•	
Chloromethane		•	מא	0.00017	0.00095	•	u	•	•	4	
trans-1,3-Dichloro	propene	ь	ND	0.00017	0.00095	0	••			•	
Chloroform	•	p.	ND	0,00014	0.00095	"	u	ri	- '	11	
Ethylene Dibromid	de	ø	ND	0,00013	0,00095	*		•	*	n	
1,2-Dichloroethane	1	U	ND	0.00015	0.00095		•	4	*		
Carbon tetrachlorio	ie ·	u	ND	0.00035	0.00095	•	•		41	· a	•
Trichloroethene			· ND	0.00017	0,00095	•	•	**	u	•	
1,2-Dichleropropar	ne	•	ND	0.00016	0.00095		u ,		٩	•	
Dichlorobromomet	hane	je	ND	0.000070	0.00095	π	p	•	Ħ	p.	
cis-1,3-Dichloropro	pene	•	ND	0.00011	0.00095	+1	•	u	P.	•	
1,1,2,2-Tetrachloro	ethane	-	ND	0.000084	0.0019	n	•	4	•		
Bromoform		•	. ND	0.000069	0.00095		•	•			
1,2,3-Trichloroprop	oane	•	ND	9.00034	0.00095		• '	a	. 4	ù	
1,2-Dibromo-3-Chl		•	ND	0,00017	0.0019		-	ч	•	14	
Hexachlorobutadie	ne .		ND	0.00032	0.00095	•I	•1	14	h	* '	
Surrogate(s):	Toluene-d8 (Surr)			120%		85.	 115%	#			r
	1,2-Dichloroethane-d4 (Surr)		119%			125%	н		, Х.	ī
	4-Bromofluorabenzene (Surr)		119%		85 -	120 %	ri		. 4	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: [509] 924.9200 fax: (509] 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: **Avery Landing**

Project Manager:

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-02RE1 (GTP1-13.5	i-082709)	So	il	Sam	pled: 08/:	27/09 10:10			
1,1-Dichloropropens	8260B STD Dry	ND	0.0036	0.080 mg/Kg dry	1×	49928	09/09/09 15:36	09/09/09 17:42	
1,2-Dichlorobenzene	10	ND	0.0052	0.080.0	*	. •	•	a	
4-Chlorotoluene	10	ND	0.026	0.080 "	1)	*	•	•	
Bromomethane	14	ND	0.050	0.28 "	n	0	ь	н	
Chicroethane	10	. אם	0.046	0.80 "	u	n	h	a	
Dichlorodifluoromethane	10	ND	0.016	0.080 *	"			a ·	
tert-Butylbenzene	IA.	ND	0.0064	0.080 *	"			*	
1.2.4-Trimethylbenzene	н	МD	0.0042	0,080,0	ti ti		a	•	
Chloromethane	19	מא	0.12	0.80 *	4	a	a	*	
Trichlorofluoromethane	n ,	מא	0.070	0.080 *	*	•		0	
1,1-Dichloroethene		ND	0.010	0.040 "	•	•	•		
sec-Burylbenzene	н	ND	0.010	0.080 *	,,	"	•	"	
Vinyl chloride	и	ND	0.0034	0.016 "	u .			I.	
1,3-Dichlorobenzene	4	ND	0.010	0.080	IP.	•	*	N	
2,2-Dichloropropane	ıí	ND	0.0074	0.080 -	I.	4		u	
Mcthylene Chloride	n .	0.032	0,0076	0.080 🚨 "	n	a a		W	فلسلنس
4-isopropyltoluene	•	ND	0.0056	0.080 "	"	"		•	_
cis-1.2-Dichloroethene		ND	0.0048	0.080 "	"	u		•	
trans-1,2-Dichloroethene	•,	ND	0.0070	0.080 "			u		
1,1-Dichloroethane	•	ND	0,0076	" 080,0	n	p	n	41	•
1,4-Dichlorobenzene	u	ND	0.010	0,080 *	•	•			
Chlorobromomethane	. "	ND -	0.024	0.080	"	"	•	•	
trans-1,3-Dichloropropene	и	ND	0.0080	0.032 "	"	"	ü	υ -	
Benzene	и	ND	0.0050	0.032 *	ч	w	Þ		
Chloroform	17	ND	0.0042	0.080 "	"	**	ш	•	
Ethylene Dibromide	0	ND	0.0064	0.080 "	4	••	M	• •	
1,1,1-Trichloroethane	a	ND	0.010	0.080 *	+1	•	N	•	
1,2-Dichloroethane	**	ND	0.0044	0.080 "			ul	*	
Carbon tetrachioride	•	מא	0.0074	0.040 "	6	и	n.	41	
Trichloroethene	ø	. ND	0.0068	0.032 "	D	Ħ	8.	u	
1,2-Dichloropropane		ND	0.0078	0.024	U	•	41	и	
Dibromomethane	•	ND	0.0080	0.080 "		•	v		
Toluene		ND	0.0048	0.080 "	**	* -	"	•	
Dichlorobromomethane	a	ND	0.0060	0.080 "	N	n	:sa	**	
1.1.2-Trichloroethane	a	ND	0.0036	0.024 "	4	н	•	•	
cis-1,3-Dichloropropene	р	ND	0.0048	0.032 "	*1	•	,,	•	
Chlorobenzene		ND	0.0046	0.080 "	4	*	D	•	
Tetrachioroethene	, и	ND	0.0042	0,040 "	#		9	el .	

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924-9200 (ax: (509) 924-9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

			restAm	enca Ta	COINA					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SH0168-02RE1 (GTP1-13.5-	082709)	So	oil		Samı	led: 08/2	27/09 10:10		· · · · · · · · · · · · · · · · · · ·	
1.3-Dichloropropane	8260B STD Dry	· ND	0,010	0.080	mg/Kg dry	1x	49728	09/09/09 15:36	09/09/09 17:42	
Ethylbenzene	Ħ	ND	0,0074	080,0	н			u	u	
1, 1, 1,2-Tetrachloroethane	"	ND	0.0096	0.080	•1	"	4		•	
Chlorodibromomethane	li .	ND	0.014	0.080	4	H	*	•1	u u	
1,1,2,2-Tetrachiorocthane	le .	ND	0.0066	0.020	*	**	U	' h	н	
n-Xylene & p-Xylene	al .	0.016	0.016	0,080	*	D	*	•	le .	
n-Xylene		מא	0.0046	0,080	4,		н	4	н	
Styrene	0	ND	0.0076	0.080		**	15		м	
3romeform	н	ND	0.022	0.080	*	•		и	ás	
sapropylbenzene	н	0.014	0.0036	0,080	4	и	*	11	u	
Вготорение	b	ND	0.0054	0.080		ų	n	e	•	
I-Propylbenzene	n	ND	0.0056	0.080	•	×		u	4	
,2,3-Trichloropropane	н	ND	0.023	0.080	**		•	*	•	
-Chlorotoluene	P	ND	0.011	0.080	U	e 1	•	u	10	
,3,5-Trimethylbenzene	н	ND	0.0084	080.0			u.		v	
-Butylbenzene	11	ND	0.015	0.080	-1		•	•	44	
2-Dibromo-3-Chloropropane	*	ND	0.13	0.40	,	a		"	11	
2,4-Trichlorobenzene		ND	0.010	0.080		0		u	и	
.2.3-Trichlorobenzene	WI .	ND	0.010	0.080	4	4	•	11		
iexach lorobutadiene	11	ND	0.017	0.080	*	ų	•	Þ	*	
aphthalene	u	ND	0.012	0.080	н	•	U	N		
Surrogate(s): Toltrene-d8 (Surr	r)		98%	***********	85 -	115%	и		п	
Ethylbenzeno-d1	0		109%		75 -	125 %	r.		#	
4-Bromofluorobe	enzene (Surr)		105%		85 -	120 %	ri .		tr	
Fluorobenzene (.	Surv)		104%		75 -	125 %	**	÷	a	
SH0168-03 (GTP3-3.5-0827	09)	Soi	i		Samp	led: 08/2	7/09 14:15			
romomethane	8260B STD Dry	ND	0,00062	0,0016	mg/Kg dry	İx	49722	09/04/09 12:30	09/64/09 15:14	
hloroethane	ú	ND	0.00043	0,0016	*	"	n	ч	•	
hloromethane	a	ND	0.00028	0.0016	•	q	"	#	*	
ans-1,3-Dichloropropene	*	ND	0.00029	0.0016	U	н	• '	н	tu .	
nloroform	н	ND	0.00024	0,0016		я	1 1			
hylene Dibromide	н	ND	0.00021	0.0016	1)		"		,	
2-Dichlomethane	•	ND	0.00026	0,0016	•	•	μ.	11	u	•
arbon tetrachloride	٠.	ND	0.00060	0.0016			4	•	u	
ichloroethene	U	ND	0,00028	0.0016	b	н	u	•1		
2-Dichloropropane		ND	0,00028	_0.0016_				μ	h	
		1 160								

TestAm		C	1
CSIMIL	CL CN	JUU	Kalla

Dichiorobromomethane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirery.

Randee Decker, Project Manager



0.00012

0.0016

ND



Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: Avery Landing

Project Number: 073-93312-03 Project Manager: Doug Morell Report Created: 10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyle	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-03 (GTP3-3.5-0827	09)	So	il		Samp	oled: 08/	27/09 14:15			
cis-1,3-Dichloropropene	8260B STD Dry	ND	0,00019	0.0016	mg/Kg dry	Ix	49722	09/04/09 12:30	09/04/09 15:14	·
1,1,2,2-Tetrachloroethane	D	ND	0,00014	0.0032	•	a	"		ч	
Bromolom	ii .	ND	0.00072	0.0016	4)	I.				
1,2,3-Trichloropropane	ú	ND	0.00058	0.0016	n		*	4	×	
1,2-Dibromo-3-Chloropropane	u	ND	0.00029	0.0032	ŧ	n	h	ч	ď	
Hexachlorobutadiene	u	ND	0,00054	0.0016	"		,,		"	
Surragate(s): Taluene-d8 (Surr)		103%		 85 -	- 115%	,		. "	
1,2-Dichloroetha	me-d4 (Smr)		101%		75 -	125 %			**	
4-Bromofluorobe	enzene (Surr)		117%		85 -	120%	"			
SSH0168-03REI (GTP3-3.5-08	2709)	Soi	il		Samp	led: '08/2	27/09 14:15			
I, I - Dichloropropene	8260B STD Dry	ND	0.00-17	0.10	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 18:06	
1.2-Dichlorobenzene	и	. ND	0.0068	0.10	•	44	•1	H	•	
I-Chlorotoluene	**	ND	0.034	0.10	**		,	*	u	
3romomethane	N	ND	0,066	0.37	n	4)	b	*	-	
Inloroethane	•	ND	U.D60	1.0			•	-	41	
Dichlorodifluoromethane	•	ND	0.021	0.10	4		4			
ert-Butylbenzene	•	ND	0.0084	0.10			*	•		
,2,4-Trimethylbenzenc	и	0.017	0.0055	0.10	n			-	•	i
Chloromethane		ND	0.16	1.0		•1	•	n n	•	
frichlorofluoromethane		ND	0.013	0.10	н	P	•	*	×	
,1-Dichloroethene	ů	ИD	0.013	0.052	w			4)	μ.	
ec-Bulylbenzene	v	ND	0.013	0.10		*	•	•	• .	
/inyl chloride	а	ND	0.0045	0.021	**	*	•1	. •	-	
3-Dichlorobenzene	а	ND	0.013	0.10	41	٠	. 41			
.2-Dichloropropane		ND	11,0097	0,10	*1	"	n	41	-	
lethylene Chloride		0.51	0.010	0.10		"		11	•	
-lsopropyltoinene	•	0.028	0.0073	0,10		U	u		h .	
is-1.2-Dickloroethene	•	ND	0.0063	0,10	r		41		h,	
ans-1,3-Dichloroethene	"	ND	0.0092	D.10	н		j•	a	4	
,l-Dichloroethane	ь	ND	0.070	0.10	n	*		, a	*	
4-Dichlorobenzene	н	ND	0.013	0.10	n	b	u	4		
hlorobromomethane	•	ND	0.031	0.10	N	-	•	1	и	
ans-1,3-Dichloropropene	•	ND	0.070	0.042	•1	4	*	a	н	
enzenc	Þ	0.0097	0.0066	0.042	и	•	46	*	•	4
hloroform	•	מא	0,0055	0.10	••			W.	v	
thylene Dibromide		ND	0,008.j	0.10			lı .	år .		
1,1-Trichloroethane	*	ND	0.073	0.10	u		4	•		

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custudy document. This analytical report wast be reproduced in its entirety.

Rander Decker, Project Manager

1 and Block





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	· · ·	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
5SH0168-03RE	I (GTP3-3.5-08270	9)	So	is		Samp	led: 08/	27/09 14:15			
1.2-Dichloroethane	•	8260B STD Dry	ND	0.0058	0.10	ளத∕Kg dry	lx	49928	09/09/09 15:36	09/09/09 18:06	
Carbon tetrachloric	de	"	ND	0.0097	0.052	4	и	*	•	•	
Trichloroethene		Ú	ND	0,0089	0.042	Ü	P		•	"	
1,2-Dichloropropar	ne	ч	ND	0.010	0.031	p	n	."	n	44	
Dibromomethane		*	ND	0,010	0.10	#	•	n	h ·	н	
Toluenc		u	0.20	0.0063	0.10	łı	*	"			
Dichtorobromomet	hane	þ	ND .	0.0079	0.10	n			*		
1,1,2-Trichloroetha	ine	N	ND	0.0047	0.031	H	•	. *	•	*	
cis-1,3-Dichloropro	opene	н	ND	0,0063	0.042	b	•	#1	*	*	
Chlorobenzene		11	ND	0,0060	0.10	4	*	P	· ·	M	
Tetrachloroethene		n	ND	0.0055	0.052		Þ	μ	ı	n	
1,3-Dichloroproper	ne	u	ND	0.013	01.0	11		,,	. "		
Ethylbenzene		0	0.012	0.0097	0,10	P	4	n	-		
1.1,1.2-Tetrachloro	ethane	ie	ND	0.013	0.10	ı	я	U	•,	•	
Chlorodibromomet	hane	16	ND	0.021	0.10	Ð	Þ	b	n	11	
1,1.2,2-Tetrachioro	ethane	*	ИD	0.0087	0.026		**	n	• "		
ın-Xylene & p-Xyl	епе	H	0.061	0.020	0.10	" .	"		u	N	
o-Xylene		**	ND	0,0060	0.10		. "	4	•	*	
Styrene		n	ND	0.010	0.10		r	41	•	•	
Bromoform		U	ND	0.029	0.10	· b	u	a a	•	**	
Isopropylbenzene			ND	0.0047	0.10	n		11	4 .	•	
Bromobenzene			ND	0.0071	0.10		"	10	"	. "	
N-Propylbenzene		N	ND	0,0073	0.10	11	•	**		٠.	
1,2,3-Trichloroprop	ane	ч	ND	0.030	0.10		•	41	•	n	
2-Chlorotoluene	•	n	ND	0.014	01.0	ı	*		ν	u	
1,3,5-Trimethylbena	zene	49	ND	0.011	0.10	• -		P1		•	
n-Butylbenzene		ıl	ND	0.019	0.10		**	M	•		
1.2-Dibromo-3-Chlo	oropropane	U	NĎ	EL 17	0.52	"		•	-	•	
1,2,4-Trichlorobenz	ene	lı .	ND	0.013	9,10	н	P	4	-	•	
1,2,3-Trichlorobenz	ene	и	ND	0.013	0.10		н	9	41	n	
Hexachlorobutadien		•	ND	0.015	0,10	61	p I	ŋ		ú	
Vaplithalène		u	0.067	0.016	0.10	n.	•	6 -	4	и	
Surrogate(s):	Toluene-d8 (Surr)			101%		85	 115%	n		et .	
- 2 -1-2	Ethylbenzene-d10	0		106%		75 -	125 %	ā		tt	
	4-Bromofluorobenzene	(Surr)		107%		85	120 %			. "	
	Fluorobenzene (Surr)	•		106%		75	125 %	ti		"	

TestA	merica	Spokani	2

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Method

8260B STD Dry

SPOKANE, WA

Batch

49722

Sampled: 08/27/09 14:35

lx

Prepared

09/04/09 12:30

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Analyzed

09/04/09 15:38

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

(GTP3-5-082709)

Project Name:

Result

ND

ND

ND

Soil

Avery Landing

Project Number:

MDL*

0,00075

0.00052

0.00034

073-93312-03

Report Created:

Redmond, WA 98077

Analyte

SSH0168-04

Bromomethane

Chloroethane

Chloromethane

Project Manager: Doug Morell

10/01/09 10:07

Notes

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

MRL

0.0019

0.0019

0.0019

Units

mg/Kg dry

Childroffletriane		ND	0.000	0.0019						
trans-1,3-Dichloropropene	•	מא	0,00035	0.0019	-	•	•	•		•
Chloroform	4	ND	0.00029	0.0019	•	P	•	•	u	
Ethylene Dibromide	N	ND	0.00026	0100.0	н .	ь	•	**	, and	
1,2-Dichloroethane	W	ND	0.00037	0.0019	4)	29	p.	μ	*	
Carbon tetrachloride	*	ND	0.00072	0.0019	b		к	4	41	
Trichloroethene	•1	ND	0.00034	0,0019			1/	"	U	
1,2-Dichloropropane	**	ND	0.00033	0.0019	**	-	a	•	и	
Dichlorobromomethane	ji	ND	0.00014	0.0019	#I		•	41	<u>.</u>	
cis-1,3-Dichloropropene	ij	ND	0.00023	0.0019	ts.	ú	•		4 .	
1, 1,2.2-Tetrachloroethane	u	ND	4.00017	0.0030	"	•	•	4	•	
Bromoform	(*	ND	0.00014	0.0019	•	•			•1	
1,2,3-Trichloropropane	••	ND	0.00070	0.0019	. •	•	· u	*1		
1,2-Dibromo-3-Chloropropane	, n	· ND	0.00035	0.0039	-	*	•	P	•	
Hexachlorobutadiene	b.	ND	0.00065	0.0019	11	u			u	. ,
Surrogate(s): Toluene-d8 (2	e	*	115%		 RS	- 115%	,			
	ethane-d4 (Surr)		99%			- 125 %	н			
	obenzene (Surr)		1/8%			- 120 %	μ		и	
SSH0168-04RE1 (GTP3-5-0	82709)	Soi	1		Samp	led: 08/	27/09 14:35		· · · · · · · · · · · · · · · · · · ·	
1,1-Dichloropropene	8260B STD Dry	ND	0.0039	880.0	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 18:29	
1,2-Dichlorobenzene	n .	ND	0,0057	880.0		R	•	n	n	
4-Chlorotoluene	a	ND	0.028	D.088				•	h	
Bromomethane	u	ND	0,055 .	0.31	41	a	11		н	
Chloroethane	•	ND	0.050	88.0	4		*	**		
Dichlorodifluoromethane	*	ND	0.018	480.0	•	•	*	ji.	4	
tert-Butylbenzene	ñ	ND	0.0070	0.088	\$ ₁	•	*	μ	B .	
1,2,4-Trimethylbenzene	•	0.021	0.0046	0.088			n	н	В	-1
Chloromethane	. " .	ND	0.13	88.0	••	н	u		U	
Trichlorofluoromethane	•	, ND	0,011	0,088			"	*	•	
1,1-Dichloroethene	*	ND	0.011	0.044	•)1	н	n		
sec-Butylbenzene	· au ·	, ND	0.011	0.088		"	' 11	n	•	
Vinyl chloride	6	ND	0.0037	810.0	4	•			•	
1,3-Dichiorobenzene		ND	0.011	880,0		4	H	#	-	
2,2-Dichloropropane	1	ND	U.ggs1	0:088-				*************		
Methylene Chloride								41		
with Arene Curotthe	"	_D_032	0.0083	0.088	("		I+	"	*	ناسل ىس

TestAmerica Spokane

The results in this report apply to the samples analyzed in accurdance with the chain of custody document. This analytical report must be reproduced in its entirery.





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dîl	Batch	Prepared	Analyzed	Notes
SSH0168-04RE1 (GTP3-5-08)	2709)	So	il		Samp	led: 08/2	27/09 14:35			
4-isopropyiteluene	8260B STD Dry	18	0,067	88.0	mg/Kg dry	10x	49928	09/09/09 15:36	09/10/09 23:36	
cis-1,2-Dichloroethene	4	ND	0.0053	0.088	•	lx	u		09/09/09 18:29	
trans-1,2-Dichloroethene	•	ND	0.0077	0.088		ч	ě)	u	u	
1.1-Dichioroethane	,	ND	0.0083	0.088	#I		D	*	e)	
1.4-Dichlorabenzene	•	ND	0.011	0.088	**			•	U	
Chlorobromomethane	•	ND	0.026	880.0	n	2		a	n	
trans-1.3-Dichloropropene	44	ND	0.0088	0.035	н	•I	*	a•	4	
Benzene	4	ND	0.0053	0.035	4	an .	п	"	H	
Chloroform		ND	0.0046	0.088		n	H	4	11	
Ethylene Dibromide	b	ND	0.0070	0.088	. "	H	w	*	•	
i,1,1-Trichloroethane	•	ПN	0.011	0.088	N		μ	в	11	
1.2-Dichloroethane	4	ND	0.0048	0.088	В	н	-	*	le:	
Carbon tetrachloride	b	ND	0.0081	0.044		•	• .	•	*	
Trichtoroethene	44	ND	0.0074	0.035	•	"	•	•	u	
1,2-Dichloropropane	*	ND	0.0085	0.026	"		4	•	A I	
Dibromomethane	41	ND	0.0088	880.0	ti.	-	U	в	n	
Coluenc	,,	0.081	0.0053	880.0	"		н	•		
Dichlorobromomethane	a	ND	0.0066	0.088		4	•		4	
1,1,2-Trichloroethane	-	ND	0.0039	0.026		•		•	н	
cis-1,3-Dichloropropene		ND	0.0053	0.035				4	n .	
Chlorobenzene	п	ND	0.0050	0.088	•	lt	1	•	P.	
l'etrachloroethene	•	ND	0.0046	0.044	•		•	h		
,3-Dichloropropane	ų	ND	0.011	280.0	•		*	4		
Ethylbenzene	6	0,072	0.0081	0.088	*	*1		•		
1,1,1,2-Terrachloroethane) 4	ND	0.011	880.0	44		4	11	•	
Chiorodibromomethane	4	ND	0.018	0.088	*	**	B;		н	
.1,2,2-Tetrachloroethane		ND	0.0072	0.022	*	•	h	•	+ B	
n-Xylene & p-Xylene		0.025	0,017	880.0	•	þ		"	и	
-Xylene	•	0.010	0.0050	0.088	•	h	•	18	ii .	
Styrene	44	ND	0.0083	880.0	•		*	•	*	
Bromo form	a	ND	0.024	0.088	н		и	h	n	
sopropylbenzene	u.	ND	0.0039	880.0		11			•	
Bromobenzene	н	ND	0.0059	980.0	*	-			•	
l-Propylbenzene	•	0.056	0.0061	0,088	•	br	•	*	4	•
.2,3-Trichloropropane	•	מא	0.025	0.088	4	-	*		-	
-Chlorotoluene	•	ND	0.012	0.088		•			н	
.3.5-Trimethylbenzene		ND	0.0092	880.0	м	•	*		19	
i-Butylbenzene	4	ND	0.016	0.088		"				

TestAmerica Spokane

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11922 E. 1ST AVENUE 5POKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number: Project Manager: Avery Landing

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-04RE	1 (GTP3-5-082709)		s	oil		Samp	led: 08/	27/09 14:35			
1,2-Dibromo-3-Ch	loropropane	8260B STD Dry	ND	0.14	0.44	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 18:29	
1.2,4-Trichloroben	zene	1)	מא	0.011	880.0		+	-	ч	•	
1,2,3-Trichioroben	геле	a	ND	0.017	0.088	9	*	"	н	ū	
Hexachlorobutadie	ene	•	QN	0.072	0.088	ģi.	и	•	•	•	
Naphthalene			0.050	9.013	880.0			•	к		
Surrogate(s):	Toluene-d8 (Surr)		#- # · · · ·	98%		 85 -	115%	,	· · - · ·		
•	Ethylbenzene-d10			114%		<i>75</i> -	125 %	W		u	
	4-Bromofluorobenzen	e (Surr)		100%		85 -	/20%	и		a	
	Fluorobenzene (Surr)			101%		75 -	125 %	W		H	
SSH0168-05	(GTP3-13.5-082709)		So	nil		Samp	led: 08/	27/09 14:49			
Bromomethane		8260B ST'D Dry	ND	0,00038	0.00099	mg/Kg dry	lx	49722	09/04/09 12:30	09/04/09 16:02	
Chloroethane		4	ND	0.00026	0.00099	0	и		n	•	
Chioromethane		a	NĎ	0.00017	0.00099		и		н	41	
trans-1,3-Dichlorop	ropene	er '	ND	410001X	0.00099	n	n	••	•		
Chloroform		•	ND	0.00015	0.00099		ıı	11	ŧ	-1	
Ethylene Dibromid	e	**	ND	0.00013	0.00099	*	*	+		D	
1,2-Dichloroethane	•	n	ND	0.00016	0.00099	u	•	•	•	0	
Carbon tetrachlorid	e		ND	0.00037	0.00099	и	•		u		
Trichloroethene		н .	ND	0.00017	0.00099	*	1)	•	wi	п	
1.2-Dichloropropan	ne e	π	ND	0.00017	0.00099	v		41	0		
Dichlarabromometi	hane		ND	0,000073	0.00099	6	Ð	*	Ħ	в	
cis-1,3-Dichloropro	pene	U	ND	0.00012	0.00099	ı	u	н	п	•	
1.1.2.2-Tetrachloros	ethane	. 4	ND	0.000087	0.0020		**	at .	*		
Bromoform		. •	ND	0.000071	0.00099		ø	P	e i		
1,2,3-Trichloroprop	ane	0	ND	0.00036	0.00099	ti.	Þ	H	•	•	
1,2-Dibromo-3-Chk		u	ND	0.00018	0.0020	•			u ·	ы	
Hexachlorobutudien		er .	ND	0.00033	0.00099	11	*	-	- 16	•	
Surrogaie(s):	Toluene-d8 (Surr)	*** ***********************************		98%			115%	·	****	#	
ann ogure(a):	1,2-Dichloroethane-d4	(Surr)		100%		_	125%	N		n	
	4-Bromofluorobenzene			108%			120%	et		a	

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax; (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

Volatile Organic Compounds (GC/MS)

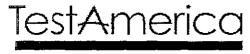
TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-05REI (GTP3-13.5	5-082709)	Soil			Samp	led: 08/2	27/09 14:49			
I, I-Dichlaropropene	8260B STD Dry	ND	0.0032	0.070	աճչKñ qւλ	l _N	49928	09/09/09 15:36	09/09/09 18:53	
1,2-Dichlorobenzene	wi	ND	0.0046	0.070	4	41	44	e e	•	
4-Chlorosoluene	•	ND	0.023	0.070	*	*			P.	
Bromomethane	U	ND	0.044	0,25	b		*	**	۳ ,	
Chloroethane	И	ND	0,040	0.70		н		n	N	
Dichlorodifluoromethane	Ŋ	ND	0.014	0.070	к	•	•	н	á	
teri-Butylbenzene	n	ND	0.0056	0,070	11	a 1	n	. •	• .	
1,2,4-Trimethylbenzene	U	ND	0.0037	0.070		· h	e	.0	×	
Chloromethane	(i	ND	0.11	0.70		4		h	•	
Trichlorofluoromethane	41	ND	0,0088	0.070	•	*	μ	u	"	
1,1-Dichloroethene	а	ND .	0,0088	0.035	n '	4	n	•	` "	
sec-Butylbenzene	и	ND	0,0088	0.070	4	٠.		•	и	
Vinyl chloride	n	ND	0,0030	0.014			*		4	
1,3-Dichlorobenzene		ND	0.0088	0.070	D	"	•	•	*	
2,2-Dichloropropane	n	ND	0.0065	0.070	u	la .	19	-ti		
Methylene Chloride	b	0.13	0.0067	0.070	н	•	16	•	и	سر
4-isopropyitoluene	. •	0.10	. 0,0049	0.070	#	n	n	H	10	
cis-1,2-Dichloroethene	. "	ND	0.0042	0.070		4	"	·	. *	
trans-1,2-Dichloroethene	D	ND	0.0062	0.070		٠	H			
1,1-Dichloroethane	(i	ND	0.0067	0.070		"	D	ų	a	
l .4-Dichlorobenzene	n ·	ND	0.0088	0.070		ņ		14	•	
Chlorobromomethane	4	ND	0.021	0.070	-		"			
trans-1,3-Dichloropropene	"	ND	0.0070	0.028	D	11			•	
Вепионе	*	ND	0.0044	0.028	•	4	· h	н	ч	
Chloroform	•	ND	0,0037	0.070	*	•	a 1	Pe .		
Ethylene Dibromide	я	ND	0.0056	0.070		*	U	н		
1, 1, 1-Trichioroethane	, в	ND	0.0088	0.070	•	n	H	•	•	
1.2-Dichloroethane		ND	0.0039	0.070	ĸ	RI .	41	*	*	
Carbon tetrachloride	•	ND	0.0065	0,035	ii.	"	U	*	•	
Trichloroethene	Ŗ	ND	0.0060	0.028	4			•	*	
1,2-Dichtoropropane	•	ND	0,0069	0.021	•		* *	-	ti	
Dibromomethane		ND	0.0070	0.070	•	n		•	44	
Toiuenc	N .	0.010	0.0042	0.070	•1	я		-	e	J
Dichlorobromomethane	ч	ND	0.0053	0.070		•	0 .	ч	(+	-8
1,1,2-Trichloroethane	¥	ND	0,0032	0.021	*+	4	*	4	**	
cis-1,3-Dichloropropone	•	ND	0.0042	0.028	11	11	a	"		
Chlorobenzene	1)	ND	0.0040	0.070			•	10	4	•
Tetrach)oroethene	U	ND	0.0037	0,035	*	el .	p p	н	•	

TestAmerica Spokane

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

. Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

			TestAm	erica Ta	coma			<u></u>		
Analyte	Method	Result	MDL*	MRL	Units	Dil	Bnteli	Prepared	Analyzed	Notes
SSH0168-05RE1 (GTP3-13.5-0)	82709)	s	oil		Samı	pled: 08/	27/09 14:49			
1,3-Dichloropropane	8260B 51'D Dry	ND	0.0088	0,070	mg/Kg dry	lx	-19928	09/09/09 15:36	09/09/09 18:53	
Ethylbenzene	n .	ND	0.0065	0,070	4	*		•	•	
1.1.1.2-Tetrachloroethane	4	ND	0,0084	(L) 070	•	*	9	-	**	
Chlorodibromomethane	ď	ND	0.014	0.070		M		-		
1,1,2,2-Tetrachloroethane	*	ND	0.11058	0.018	H	•	*	6	w.	
m-Xylene & p-Xylene	W	0.014	0.014	0.070	ı	*	•	er .	0	
o-Xylene	N .	0.0067	0.0040	0,070	U		H	4	a	
Styrene	P	ND	0.0067	0.070	H	n	ь		"	
Bromo form	n	NĎ	0.019	0.070	и .	ш			4	
Isopropylbenzene	u	ND	0.0032	0,070		•		-	*	•
Bromobenzene		ND	0.0047	0.070	•	. *	н	н	u	
N-Propylbenzene	*4	ND	0.0049	0,070	•	н		•	-	•
1,2,3-Trichloropropane	b	ND	0.020	0.070	•	"				
2-Chlorotoluene	n ·	ND	0.0095	0.070		•1	•		•	
1.3,5-Trimethylbenzene	u	ND	0.0074	0.070	•	*	•	•	**	
n-Butylbenzene	п	ND	0.013	D,070			. "	*	. н	
1,2-Dibromo-3-Chloropropane	•	ND	0.12	0.35	•	a	•	н	ie :	
1,2,4-Trichlorobenzene	. н	ND	0.0088	0.070			•		•	
1,2,3-Trichlorobenzene	•	ND	0.0088	0,070	u		٠.		n	
Hexachiorobutadiene	n	ND	0.0098	0.070	10	*	n	•	u	
Naphthalene	→ H	ND	0.011	0.070	•	п	ч		•	
Surrogate(s): Toluene-d8 (Surr)			100%		. 04	115%	u			·
Ethylbenzene-d10			113%			125%	a		*	
4-Bromofluoroben	zene (Surr)		106%			120 %	u		**	
Fluorobenzene (Su			107%			125 %	н		"	
SSH0168-06 (GTP4-2.5-08270)	9 1	So	il .		Samp	led: 08/2	27/09 15:40		,	
Bromomethane	8260B STD Dry	ND	0,00046	0,0012	mg/Kg dry	lx	49722	09/04/09 (2:30	09/04/09 16:26	
Chloroethane	н	ND	0.00032	0.0012	*		-	н		
Chloromethane	*	ND	0.00021	0.0012	h			ul	•	
trans-1,3-Dichloropropene		ND	0,00021	0.0012		•	4	às .	4	
Chloroform		ND	0.00018	0.0012		*	4		n	
Ethylene Dibromide	**	ND	0,00016	0.0012	м	ь				-
1.2-Dichloroethane		ND	0.00019	0.0012	•	*	4			
Carbon tetrachloride		ND	0,00044	0.0012		41	ч .	41		
Trichloroethene	u.	ND	0,00021	0.0012	.,			(I	11	
77-Dichloropropane		ND	0,00020	0.0012		*	*	a		
Dichlorobromomethane		ND ND	0.000088	0.0012	"	*	11		н	
D (elliproprofitolitemetic		ND		2.0012						

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Annlyte	Method	Result	MDL*	MRL	Units	Đil	Batch	Prepared	Analyzed	Notes
SSH0168-06 (GTP4-2.5-08	2709)	S	oil		Samp	led: 08/	27/09 15:40			
cis-1,3-Dichloropropene	82600 STD Dry	ND	0.00014	0.0012	mg/Kg dry	lx.	49722	09/04/09 12:30	09/04/09 16:26	
1,1,2,2-Tetrachiproethane	11	ND	9,90010	0.0024		•	#	-	N	
Bromoform	"	ND	0.000085	0.0012		•		4	1	
1,2,3-Trichloropropane	ei .	ND	0.00043	0.0012	te .	4	4		n	
1,2-Dibromo-3-Chloropropane	n	ND	0.00022	0.0024	" ,	a	ь	te	n	
Hexachlorobutadiene	n	ИD	0,00040	0.0012	•	и	**	и		
Surragate(s): Tolnene-d8 (Si	urr)		99%	**	85 -	115%			и	
•• ••	thane-d4 (Surr)		101%			125 %	H		es	
4-Bromofluora	obenzene (Surr)		108%		85 -	120 %	म		n	
SSH0168-06RE1 (GTP4-2.5-	N82709)	So	oil		Samp	led: 08/	27/09 15:40			
1,1-Dichloropropene	8260B STD Dry	ND	0,0020	0.044	ng/Kg dry	lx	49928	09/09/09 15:36	09/09/09 19:18	
1.2-Dichlorobenzene	41	ND	0,0029	0.044		Α.		п		
4-Chlorotoluene	Þ	ND	0.014	0.044		n		**	u	
Bromomethane	H	ND	0,028	0.16		•		••	п	
Chloroethane	77	ND	0.026	0.44	*		н	44	u	
Dichlorodifluoromethane	¥	ND	0.0089	0.044	н		` п	4	ú	
tert-Butylbenzene	N	ND	0.0036	0.044		H	н	1)		
1,2,4-Trimethylbeazene	и	0.41	0.0023	0.044	•1	н	4	•	и	
Chloromethane		ND	0.067	0.44	•	Ħ	a ,		•;	
Trichlorofluoromethane	*	ND	0.0055	0.044		-		**		
1,1-Dichloroethene	*	ND	0.0055	0.022	*1		41	*	ıt	
sec-Butylbenzene	и	ND	0.0053	0.044	•	n	•		o	
Vinyl chloride	u ,	ND	0.0019	0.0089	*1		•	41	ч	
1,3-Dichlorobenzene	n	ND	0,0055	0.044	•		**		4	•
2,2-Dichloropropane	IJ	ND	0,0047	0.044	4		P	44	u	
Methylene Chloride	- u	0.046	0.0042	ن 0.044	L·	a		u	41	سيلهلسب
4-lsopropyltoluene	•	0.022	0,0037	0.044		þ	а	¥		ı,
cis-1,2-Dichloroethene	¥	ND	0,0027	0.044			41	μ	н	
trans-1,2-Dichloroethene	lf .	ND	0,0039	0.044	*	h	t+	н	*1	
1.1-Dichloroethane	,,	ND	0,0042	0.044		н	*	•		
1,4-Dichlorobenzene		ND	0.0055	0.044	*	•	4	**	*	
Chlorobromomethane	н	ND	0.013	0.044		n	•	H		
trans-1,3-Dichloropropene	н	ND	0.0044	0.018	n		•	41	•	
Benzene	4	0.026	0.0078	0.018	9 1	н	р	•	•	
Chloroform	a	ND	0.0023	0.044				**	•	
Ethylene Dibromide		ND	0.0036	0.044		u'	н		*	
1,1,1-Trichiorosthane	P .	ND	0.0055	0.044		u	4	и		

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924-9200 fax: (509) 924-9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Moreli Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-06RE1	(GTP4-2.5-082709)		Soi	il		Samp	sted: 08/2	7/09 15:40			
1,2-Dichloroethane	8	26013 STD Dry	ДN	0.0024	0.044	mg/Kg dry	1 x	49928	09/09/09 15:36	09/09/09 19:18	
Carbon tetrachloride	e	*	ND	0.0041	0.022			**	"		
Trichloroethene		•1	ND	0,0038	810.0	4	*	n	a	n	
1,2-Dichioropropan	e '		ND	0.0043	0.013	•			**	р	
Dibromomethane		•1	ND	0.0044	0.044	*	н	н	•	44	
Toluene		•	0.21	0.0027	0.044	н		•	11	41	
Dichlorobromometh	nane	*1	ИD	0.0033	0.044	ь	•	н	41	"	
1,1.2-Trichloroethar	ne	v	NĐ	0.0020	0.013		*	•	4	"	
cis-1,3-Dichloroprop	pene	40	ND	0.0027	0.018		*	•	ч	g	
Chlorobenzene	•	U	ND	9.0026	0.044		41	и	ų	49	
Tetrachloroethene		D	ND	0.0023	0.022	*	4)		4	đ	
1,3-Dichloropropant	в	h	ND	0.0055	0.044	b.	U	4	41	"	
Ethylbenzene			0.039	0.0041	0.044	**		4	•	•	J.
1.1.1.2-Tetrachloroe	thane	H	ND	0.0053	0.044	u	ıı	# .	u	* 4	
Chlorodibromometh	ane		ND	0,0089	0.044		"	4	*)		
1,1,2,2-Tetrachlores	thane	*	ND	0.0037	0.011	a	ø	4	10	n	
m-Xylene & p-Xyle	пе	u ·	0.59	0.0087	0.044				и	•	
o-Xylene		•	0.41	0,0026	0.044	-		19	•	•	
Styrene		•	ND	0.0042	0.044	•	н	•		H	
Bromoform		D	ND	0.012	0.044	•		4	•		
lsopropylbenzene		•	0.0066	0.0020	0.044	a	*11	н	,		
Bromobenzene		н	ND	0.0030	0.044	n.	p	•	•	d	
N-Propylbenzene		41	0.019	0.0037	0.044	ь		•			J
1,2,3-Trichloropropa	me	H	ND	0.013	0.044	•1	•	•		11	
2-Chlorotoluene		F	ND	0,0060	0.044	4	*	•		àl	
1,3,5-Trimethylbena	zenc	н	0.27	0,0047	0.044	ä	•	46	4	II.	
n-Butylbenzene		•	ND	0.0081	0.044	**	٠		-	Ü	
1,2-Dibromo-3-Chlo	горгорапе	4 -	ND	0.073	0.22	v	n	н	**	н	
1.2.4-Trichlorobenze	ne	P	ND	0.0055	0.044	41	"	и		п	
1,2,3-Trichlorobenze	ne	ь	ND	0.0055	0.044	0		11	•	n	
Hexachlorobutadiene	:	ń	ND	0.0062	0,044	u	u			· u	
Naphthalene		16	0.14	0.0067	0.044	•	n		el .	н	
Surrogate(x):	Toluene-d8 (Surr)			<i>99%</i>		85 -	 115 %	"	e	·· ·—- ·· ·· · · · · · · · · · · · · · ·	
_	Ethylbenzene-d10	•		114%			125 %			H	
	4-Bromafluorobenzene (Su	rr)		/00%		85 -	120 %			u	
	Fluorobenzene (Surr)			103%		75 -	125 %	u		H	

TestAmerica Spokane

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Randee Decker, Project Manager

Page 71 o



SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-07 (GTP4-8.0-082	709)	Soil			Samp	led; 08/2	7/09 15:59			
Bromomethane	8260B \$1'D Dry	ND	0.00046	0.0012	mg/Kg dry	l×	497 <u>22</u>	09/04/09 12:30	09/04/09 16:49	-
Chloroethane	h	ND	0,00032	0.0012	A	•	*	4)		
Chloromethane	ú	ДN	0.00021	0.0012	•	•	Ħ	fi fi		
trans-1,3-Dichloropropene	u	ND	0.00021	0,0013	4	•	**	"		
Chloroform .	u .	ND	£ 00018	0.0012	-	*		•	•	
Ethylene Dibromide	11	ND	0.00016	0.0012	*	"	•	н	U	
1,2-Dichloroethane	ti	ND	0.00019	0,0012	a	10	4	ıı .	п	
Carbon tetrachloride	4	ND	0.00045	0.0012	u	,	•	u	H	
Nichloroethene	•	ND	0.00021	0,0012	ч	•	н		u	
.2-Dichloropropane	e	ND	0.00020	0.0012	N	-	•	×		
Dichlorobromomethane		ND	0.000089	0.0012	#	**	4	*	•	
is-1,3-Dichloropropene	•	NĎ	0.00074	0,0012	Ħ	и.	•	-	н	
, I,2,2-Tetrachloroethane	•	ND	0.00011	0.0024		"	"	•	h	
Froma form	•	ND	0.000086	0.0012		ń	•		tı	
.2.3-Trichloropropane	•	ND	0.00043	0.0012	"	**	tı	*	li	
2-Dibromo-3-Chloropropane	•	ND	0.00022	0,0024	•	N,	**	M	н	
lexachlorobutadiene		ND	0.00040	0.0012		•	"	H	u	
Surrogaie(s): Toluene-d8 (Sur	າ)		102%		 85 -	115%				
1,2-Dichloroethane-d4 (Surr) 4-Bramofluorabenzene (Surr)			102%			125 %	e		н	
		-	106%		85 -	120 %	n		#	
SH0168-07RE1 (GTP4-8.0-082709)		So	Soil		Sampled: 08/27/09 15:59					
I-Dichloropropene	8260B STD Dry	ND	0,0022	0.048	mg/Kg dry	lκ	49928	09/09/09 15:36	09/09/09 19:42	
2-Dichlorobenzene	n	ND	0.0031	0.048	u ·	*1		et.	ü	
-Chlorototuene		ND	0.016	0.048	4	*		. •	•	
romomethane	n	ND	0.030	0.17		•	•	•1	•	
hloroethane	"	ND	0.028	0.48	,		41	4	*	
ichlorodifluoromethane		ND	0.0096	0.048	n	4	41		41	
rl-Butylbenzene		ND	0.0039	0.048	lu .	••	•1	**	٠	
2,4-Trimethylbenzene	м	ND	0.0025	0.048	b	••	•	•	•	
loromethane	ıı	ND	0.073	0.48	10	••	86	¥	*	
richlorofluoromethane	16	ND	0.0060	0,048	4	•	**	u .	H	
l-Dichloroethene	и	ND	0.0060	0.024	n	41	43	v	. н	
c-Butylbenzene	н	ND	0,0460	0.048	*	•	•	•	•	
inyl chloride	п	ND	0,0020	0.0096	•	•	11	11	*	
						•,	4.		_	
,3-Dichlorobenzene	•	ND	0,0060	0.048	v	•		•	•	

TestAmerica Spokane

Methylene Chloride

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<u>([2003] 2331/cm</u> Randee Decker, Project Manager



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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290.

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Moreli

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

Test America Tacoma

Analyte	Method	Result	MDL*	MŖL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-07RE1 (GTP4-8.0-0	182709)	So	11	Sampled: 08/27/09 15:59						
4-Isopropylloluene	\$260B STD Dry	0.014	0.9034	0.048	mg/Kg dry	18	49928	09/09/09 15:36	09/09/09 19:42	
cis-1,2-Dichloroethene		ND	0,0029	0.048	•I			•	,	
trans-1,2-Dichloroethene	n .	ND	0.0042	0.048	•	×	u	'n	•	
1.1-Dichloroethane	ū	ND	U,U046	0,048	•1	ь	4	•		
1.4-Dichlorobenzene	a	ND	0.0060	0.048	4	ь	ę	11	D	
Chlorobromomethane	ď	ND	0.014	0.048	II .	•	(1	я	48	
trans-1,3-Dichloropropene	u	ND	0.0048	0.019	h	•	(1	**	P	
Benzene	Ű	ND	0.0030	0.019	"		n	ı		
Chloroform	ú	ND	0,0025	0,048	. n		r!	4	16	
Ethylene Dibromide	ø	ND	0.0039	0.048	đ		•	•	44	
1,1,1-Trichloroethane	#	ND	0.0060	0.048	•	10	•	*	44	
1,2-Dichloroethane		ND	0.0026	0.048	•	*	"	•		
Carbon tetrachloride	*	ND	0.0045	0.024	•	i+	H		"	
Trichloroethene		ND	0.0041	0.019		P	и		и	
1,2-Dichloropropane	**	ND	0.0047	0.014		•	**			
Dibromomethane	**	ND	0.0048	0.048		•	н	h	ч	
Toluene	*)	ND	0.0029	0.048	•	•		• .		
Dichlorobromomethane	*	ND	0.0036	0.048	n	*	•	*	u	
1,1,2-Trichloroethane		ND	0.0022	0.014	н		lę.		ii.	
cis-1.3-Dichloropropene	4)	ND	0.0029	0.019	n			Ħ	Ŋ	
Chlorobenzene	n	ND	0.0028	0.048	•	•		•	II .	
Tetrachloroethene	u ·	ND	0.0025	0.024	*	•	•		H	
1,3-Dichloropropane		ND	0.0060	0.048	•	*		11		
Ethythenzene	p.	ND	0.0045	0.048	4	4	n	4	*	
1.1.1.2-Terrachloroethane	ft	ND	0.0058	0.048		•	. 6	41	h	
Chlorodibromomethane	p	ND	0.0096	0.048			n		•	
1,1,2,2-Tetrachloroethane	h	ND	0.0040	0.012	*		u		4)	
m-Xylenc & p-Xylene	и	0.012	0.0094	0.048	a .	P	н		n .	J
o-Xyiene	и .	ND	0.0028	0.048	•	4	и	N	11	
Styrene	п	ND	0.0046	0.048	н	ÞÍ	u	N	6 1	
Bromoform	ĸ	ND	0.013	0.048	*	•1	41		41	
Isopropy!benzene		ND	0.0022	0.048	•	H	H	•	• 1	
Bromobenzene	*	ND	0.4033	0.048	•	. •	*1	-	*	
N-Propylbenzene	•	ND	0.0034	0.048	**	**	*		н	
1,2,3-Trichloropropane	*	ND	0.014	8140,0	n	•	*	. 6	**	
2-Chiorololuene	*	ND	0.0065	0.048			n	6	-	
1-3.5-Trimethylbenzene		ND	0,005/	0.048	"		**	"		
n-Butylbenzene	W	ND	0.0088	0.048)1	H	11	н	н	·

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-S302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Method

Result

Golder Associates, Inc.

Analyte

Project Name:

MDL*

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Dîl

Batch

Prepared

Analyzed

Report Created:

10/01/09 10:07

Notes

Volatile Organic Compounds (GC/MS)

MRL Units

TestAmerica Tacoma

SSH0168-07RE1 (GTP4-8.0-0	82709)	S	oil		Samp	oled: 08/	27/09 15:59			
1,2-Dibromo-3-Chloropropane	8260B STD Dry	ND	0.079	0.24	ութ/Kg dry	x	49928	09/09/09 15:36	09/09/09 19:42	
1,2,4-Trichlorobenzene	n.	ND	0,0060	0.048	b	•>	v	b		
1,2,3-Trichlorobenzene	ų	ND	0.0060	0.048	н.	•	•	*	-	
Hexachlorobutadiene	•	ИD	0.0067	0.048	•	н	4	•	н	
Naphthalene	•	ПN	0.0072	0.048	a	4			¥	
Surrogate(s): Toluene-d8 (Sur	•		98%			- 1/5 %	n		. "	
Ethylbenzene-di			105%			- 125 %	a		u	
4-Bromofluorob			102%			- 120 %	"		,	
Fluorobenzene (Surr)		106%		73 -	- 125 %			4	
SSH0168-09 (GTP5-3.0-0827	09)	So	oil		Samp	led: 08/2	27/09 16:40			•
Bromomethane	8260B STD Dry	ND	0.00043	0.0011	നല്പ/Kg dry	lx	49722	09/04/09 12:30	09/04/09 17:13	
Chloroethane	и	ND	0.00030	0.0011	n	10	"	4	••	
Chloromethane	н	ND	0.00020	0.0011		•	tr.		•	
rans-1,3-Dichloropropene	*	ND	0.00020	0.0011	H	u	n	41	n	
Chloroform		ND	0.00017	0.0011	•	-	ti .	н	п	
Ethylene Dibromide	M	ND	0,00015	D.901 J	*	Ħ	"	•	•	
,2-Dichloroethane		ND	0.00018	1100.0					*	
Carbon tetrachloride	n .	ND	0,00042	0.0011		10		U	. 11	
richloroethene	w	ND	0.00020	0.0011	•		4		п	
.2-Dichloropropane	•	ND	0,00019	0.0011	-	**) -	•	·	
lichlorobromomethane		ND	0.000083	0.0011		•	4	þ.	*	
is-1,3-Dichloropropene	41	ND	0.00013	1100.0		10		•	a	
1,2,2-Tetrachloroethane	. "	ND	0.000099	0.0023	а	н	"	•	u	
romoform	V	ND	0.000081	1100.0	*1		41	41		
2,3-Trichloropropane	u	ND	0.00041	0.0011	•6	н	*	70	•	
2-Dibromo-3-Chiloropropane	ч .	ND	0.00020	0.0023		**	*		•	
iexachlorobutadiene	N	ND	0.00038	0.0011		-		•		
Surrogate(s): Toluene-d8 (Surr	,		99%		85 -	115%	"		h	
1,2-Dichloroetha			103%			125 %	u		. "	
4-Bromofluorobe	nzene (Surr)		105%		85 -	120 %	**		#	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WÁ 99205-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: Project Manager: **Avery Landing**

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dit	Batch	Prepared	Analyzed	Notes
SSH0168-09REI (GTP5-3.0-	082709)	Soi	1		Samp	led: 08/2	7/09 16:40			
1,1-Dichloropropene	8260B STD Dry	ND	0.0027	0.060 n	ոն∖Kն գեհ	lx.	49928	09/09/09 15:36	09/09/09 20:06	
1.2-Dichlorobenzene	*1	ND	0.0039	0.060	"		×	u ·	v	
4-Chlorotoluene	-1	ND	0.019	0.060	*	•	"	•	9	
Bromomethane	•1	ND	0,037	0.21		*		a l	Ħ	
Chloroethane	4	ND	0,034	0.60	H	*	h	e	•	
Dichlorodifluoromethane	4	ND	0.012	0.060		*	"	u	•	
terr-Butylbenzene	91	ND	0.0048	0.060	0		u		•	
1,2,4-Trimethylbenzene	N	ND	0.0031	0.060	D	н	"	н	i+	
Chloromethane	pl	ND	0.090	0.60	41	-	"	H	h	
Trichlorofluoromethane	H	ND	0.0075	0.060	0	и	41		u	
1.1-Dichloroethene	N	ND	0,0075	0.030		u	•	••	d	
sec-Butylbenzene	μ	. ND	0.0075	0.060	и	•	•	4	û	
Vinyl chloride	b	ND	0.0025	0.012		•	41		ч	
1,3-Dichlorobenzene	u.	ND	0.0075	0.060	•	•	ч	u		
2,2-Dichloropropane	· ·	ND	0.0055	0.060	•	•	"	-	4,	
Methylene Chloride	•	0.047	0.0057	0.060	- "	•	*	*1	41	والمسانس
4-Isopropyltoluene	u	ND	0.0042	0.060	••		•	•	P	.
cis-1,2-Dichloroethene	ul	ND	0.0036	0.060	*	•	•	•	0	
trans-1,2-Dichloroethene	4	ND	0.0052	0.060			*	•	н	
1,1-Dichloroethane	•	ND	0.0057	0.060	•		•	•	•	
1.4-Dichlorobenzene	6	ND	0.0075	0.060				•	•	
Chlorobromomethane	6	ND	0.018	0.060	41	*				
trans-1,3-Dichloropropene	u	ND	0.0060	0.024	u	*	•		•	
Benzene	a	ND	0.0037	0.024	•	D	-	-	ų	
Chloroform	•	ND	0.0031	0.060	•)		4	•	ti	
Ethylene Dibromide		ND	0.0048	0.060 .		. "	•	n		
I.1.1-Trichloroethane	×	ND	0.0075	0.060			11		•	
1,2-Dichloroethane	*	ND	0.0033	0.060		0		и	•	
Carbon tetrachloride	•	ND	0.0055	0.030	н		и	ч	H	
Trichloroetlæne	•	ND	0,005 /	0.024	n	•	ч	e	•	
1,2-Dichloropropane		ND	0.0058	0.018	4)	•	*	"	•	
Dibromomethane	н	ND	0.0060	0.060	0	•	I p	•	1)	
Toluene	Ð	ND	0.0036	0.060		•	**	•	•	
Dichlorobromomethane	D	ND	0.0045	0.060	п	•	4	u u	h	
1,1,2-Trichloroethane	(t	ND	0,0027	810,0	•1	D	п	1 1	н	
cis-1.3-Dichloropropene	и .	ND	0.0036	0.024	•	**	11	**	и	
Chlorobenzene		ND	0.0034	0.060		"	4	"		
Tetrachioroethene	ti	ND	0.0031	0.030			hj	"	-	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-09RE1 (CT	°P5-3.0-082709)	So	îl		Samp	oled: 08/	27/09 16:40			
1.3-Dichloropropane	8260B STD Dry	ND	0.0075	0.060	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 20:06	
Ethylbenzene	•	ND	0,0055	0.060	•	4	*	•	•	
1,1,1,2-Tetrachloroethane	**	ND	0.0072	0.060	•	P	4	"	10	
Chlorodibromomethane	•	ND	0.012	0.060	n	P	4	a	н	
1,1,2,2-Tetrachloroethane	ń	ND	0,0049	0.015	p	U	*			
m-Xylene & p-Xylene	п	ND	0,012	0.060	D			•	*	
o-Xylene	n	ND	0.0034	0.060		PI	•	4	•	
Styrene	0	ND	0.0057	0200		4	•	•		
Bromoform	n	ND	0.016	0.060		•1	4	•	W	
Isopropylbenzene	ų	ND	0.0027	0.060	•		•	n	n	
Bromobenzene	u .	ИĎ	0.0040	0,060	•	••	*		u.	
N-Propylbenzene	**	ND	0.0042	0.050		•		*	"	
1,2.3-Trichloropropane	41	ND	0.017	0.060	46	a	"	4	*	
2-Chlorotoivene	41	ND	0.0081	0.060	n,	ď	le		U	
1,3,5-Trimethylbenzene	11	ND	0.0063	0.060			•	•	n	
n-Butylbenzene	11	ND	0.011	0,060		•	17	*	u	
.2-Dibromo-3-Chioropropa	ane "	ND	0.099	0.30	"	-	*		4	
1,2,4-Trichlorobenzene	n	ND	0,0075	0.060	•	*	*		u	
,2,3-Trichlorobenzene	υ	ND	0.0075	0.060	•			"	•	
Hexachlorobutadiene	и	ND	0.0084	0.060	H	*.		н	in	
Naphthalene	п	ND	0.0090	0.060	•	•	•	•		
Surrogate(s): Toluen	ne-d8 (Surr)		97%		85 -	115%	**		ü	
Ethylb	enzene-d10	•	104%		75 -	125 %	•		n	
	mo[luorobenzene (Surr)		97%			120 %	п		n	
Fluora	obenzene (Surr)		103%		75 -	125 %	n	•	**	٠
SH0168-10 (GTP5-	7.0-082709)	Soil	<u> </u>	_	Sampl	led: 08/2	7/09 16:53			
Bromomethane	8260B STD Dry	מא	0.0013	0.0035	mg/Kg dry	1s	49722	09/04/09 12:30	09/04/09 17:37	

SSH0168-10 (GTP5-7.0-08270	9)	So	i1		Samp	led: 08/2	7/09 16:53			
Bromomethane	8260B STD Dry	ND	0.0013	0.0035	mg/Kg dry	ls	49722	09/04/09 12:30	09/04/09 17:37	
Chloroethane	**	ND	0.00093	0.0035	*			4	ч	
Chloromethane	n	ND	0.00061	0.0035	٠	и,	"	"	n .	
trans-1,3-Dichloropropene	**	מא	0.00061	0,0035	R	•	n	н	•	
Chloraform	lı	ND	0.00051	0.0035	0		Þ	•1	**	
Ethylene Dibromide	•	ND	0.00046	0.0035		•	PI	ė i	n	
1,2-Dichloroethane	N	ND	0.00055	0.0035	u			•	q	
Carbon tetrachioride	•	ND	0.0013	0.0035	•		n	e e	e	
Trichloroethene		ND	0.00061	0.0035	. *		ĸ	"	u	
1,2-Dichloropropane		ND	0:00059-	0.0035			•	u	н	
Dichlorobromomethane	н	ND	0.00026	0,0035	n	4	D	N	•	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Analyzed

THE LEADER IN ENVIRONMENTAL TESTING

Method

Result

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Project Name:

MDL*

Avery Landing

Dil

Batch

Prepared

Redmond, WA 98077

Analyte

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Notes

Volatile Organic Compounds (GC/MS)

MRL Units

TestAmerica Tacoma

Analyse	(ATCHIOR	resuit	MDT.	INTEREST	Onna		Phicu	Lichared	MUNITAGE	_	Notes
SSH0168-10 (GTP5-7.0-08	32709)	So	il .		Samp	led: 08/2	7/09 16:53				
cis-t,3-Dichloropropene	8260B STD Dry	ND	0.00040	0.0035	mg/Kg dry	lx	49722	09/04/09 12:30	09/04/09 17:37		
1,1,2,2-Tetrachloroethane	н	ND	0.00030	0.0069		н .	e	P	•(
Bromolom	н	ND	0.00025	0.0035	•	-		•	#		
1,2.3-Trichloropropane		ND	0,0012	0.0035		an	le .	,	н		
1.2-Dibromo-3-Chloropropane	ı	ND	0.00063	0.0069	n		"	-	"		
Hexachlorobutadiene	. "	ND	0.00/2	0.0035	*	-	•	•	н		
From country ()			11504			115.00				•	
Surrogate(s): Taluene-d8 (S	urr) nhane-d4 (Surr)		116% 105%			· 115 % · 125 %	"		. "	X. I	
	obenzene (Surr)		133%			120%	n		*	ν,	
. 500003,0000	0001120112 (0.1.1)		15574		43	,,,,,,,				X. I	
SSH0168-10RE1 (GTP5-7.0-	082709)	So	ii		Samp	led; 08/2	7/09 16:53				
1,1-Dichlaropropene	8260B STD Dry	ND	0.0070	0.16	mg/Kg dry	ly:	49928	09/09/09 15:36	09/09/09 20:30		
,2-Dichlorobenzene	*	ND	0.010	0.16	"	*	n	•	·		
-Chlorotoluene	••	ND	0.051	0.16	•1 •	,,	*	"	4		
fromonethane	41	ND	0.097	0.54		14					
hloroethane	Ŋ	· ND	0.089	1.6	(1	-		1)	•		
Dichlorodifluoromethane	N	ND	0.031	0.16	10		•	4	Ð		
ert-Butylbenzene	"	ND	0.012	0.16		•	4		м		
2,4-Trimethylbenzene		0.12	0,0082	0.16	n		. •	•	*		
Shloromethane	H	ND	0,23	1.6		н	n	e i	n		
richlorofluoromethane	4	ND	0,019	0.16	•	"	H	0	-		
. I-Dichloroethene	a	ND	0.019	0.078	•	"	••	"	•		
ec-Butylbenzene	•	0.036	0.019	0.16		•	"	"	•		
'inyl chloride	·	ND	Œ 11066	0.031	"		,	-			
3-Dichlorobenzene	u	ND	0.019	0.16	#	și.	4	-	•		
,2-Dichloropropane	P)	ND	0.014	0,16	ď	•	91				
ethylene Chloride	н	0,054	0.015	0.16	L "		P	•		٠	سيهسد
Isopropyltoluene	•	0,15	0.011	0.16			*	. •	2		
s-1,2-Dichloroethene	tt.	ND	0.0093	0.16		•	4	•	*		
ans-1,2-Dichloroethene	u	ИN	9.07-4	0.10	**	-		-	-		
1-Dichloroethane	• .	ND	0.015	0.16	•I	-	*	41	•		
4-Dichlorobenzene	n	ND	0.019	0.16	μ	•	••	ù			
niorobromomethane	*	ND	0.047	0.16	• и	· m		la .	*		
uns-1,3-Dichloropropene	•	ND	0.016	0.062	**	•	*	,			
enzene	u	ND	0.0097	0.062	н	•	h	*			
tloroform	Þ	ND	0.0082	0.16	N	4		н	•		
thylene-Dibromide	u .	ND	0.072	0.16		•	4	н	41		
1,1-Trichloroethane		ND	0,019	0.16	н	"			"		

TestAmerica Spokane

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Manager: Avery Landing

Project Number:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-10RE	EI (GTP5-7.0-082709)		Soi	1		Sam	pled: 08/	27/09 16:53			
1,2-Dichloroethar	n e !	8260B STD Dry	ЙD	0.0086	0.16	mg/Kg dry	1.8	49928	09/09/09 15:36	09/09/09 20:30	
Carbon tetrachlor	ide	H,	ND	0.014	0.078	н	H	u	w	я	
Trichloroethene		u	ND	0.073	0.062	•1	**		4	*	
1.2-Dichloroprop	ane	41	ND	0.015	0.047	41	₩	u	•	4	
Dibromomethane		n	ND	0.016	0.16	•	D	4	u	4	
Тоіцене		U	0.095	0,0093	0,16	n	•	q	II		
Dichlorobromome	ethane		ND	0.012	0.16	N	4 .		ч	н	
1,1,2-Trichloroeth	nane	h	ND	0.0070	0.047		ia.			٠.	
cis-1.3-Dichlorop	ropene	••	ND	0,0093	0.062			¥i	•	4	
Chlorobenzene		n	ND	0,0089	0.16		*1		n ·	*	
Tetrachloroethene		•	ND	0,0082	0.078	•	v		*	4	
1,3-Dichloropropa	ine	н	ND	- 0.019	0.16	a		91			
Ethylbenzene			880,0	0.014	0.16	•	N		H		
1,1,1,2-Tetrachlor	oethane		ND	0.019	0.16	-	•	*	**	11	
Chlorodibromome	thane	11	ND	0.031	0.16	11	is.		n	p.	
1.1,2,2-Tetrachlore	oethane	p	ND	0.013	0.039	#	н	•	•		
m-Xylene & p-Xy	lene	H	ND	0.030	0.16	•		11	41		
o-Xylene		•	0.012	0,0089	0.16		**	19	4	•	
Styrene		el	ND	0.075	0.16	A 1	•	à		"	
Bromoform			ND	0.043	0.16	41	•	•	•		
lsopropylbenzene		9	0.030	0.0070	0.16		=	0			
Bromobenzene	·		ND	0.010	0.16	•	41	n			
N-Propylbenzene		(t	ND	0.011	0.16	••	•	•	•	-	
1,2,3-Trichloroprop	pane	•	ND	0.045	0.16	a.	"	u		41	
2-Chlorotoluene		4	ND	0.021	0.16	n	*	••	17	н	
1,3,5-Trimethylbe	nzene	u	0.058	0.016	0.16	11	n	*		* .	
n-Butylbenzene		•	ND	0.028	0.16	. "	•	•1	•		
1,2-Dibromo-3-Chl	Іогоргорапе	•	ND	11.26	0.78	11		u .		•	
1,2,4-Trichlotoben:	zene	**	ND	0.019	0.16	•	•	*	**	4	
1,2,3-Trichloroben:	zene .		ND	0.019	0.16		**	u	•	-	
l-lexachlorabutadie:	ne	"	ND	0,022	0.16	**		+1	•	ч	
Vaphthalene			0.090	0.023	0.16	**	•	•			
Surrogate(s):	Toluene-dE (Surr)			97%		85 -	115%	a		·'n	
	Ethylbenzene-d10			111%		75 -	125 %	n		u	
	4-Bromofluorobenzene (Si	ur)		100%			120 %	er .		H	
	Fluorobenzene (Surr)			103%		75 -	125 %	p		"	

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-11 (GTP6-10-082	809)	St	oîl		Samp	oled: 08/2	28/09 10:36			
Bromomethane	8260B STD Dry	ND	0.0011	0.0028	mg/Kg dry	İx	49722	09/04/09 12:30	09/04/09 21:36	
Chloroethane	D.	ND	0.00076	0.0028	"	u	•	*	٠.	
Chloromethane	U	ND	0.00050	0.0028	4	4	•		D	
rans-1,3-Dichloropropene	u	ND	0.00051	0.0028	•	*		•	н	
Chloroform	it	ND	0.00042	0,0028	•		"	×	*	
Ethylene Dibromide	•	ND	0.00038	0.0028	11		u	b ·	n	,
,2-Dichloroethane	И	ND	0.00046	0.0028	"	•	ø	þ	U	
Carbon tetrachloride	*	ND	0.0011	0.0028	4	•	-	u	4	
richloroethene	,	ND	0.00050	0.0028	•	•	•	u	•	
.2-Dichloropropane	и	ND	0.00049	0,0028	•1	n	u	*	**	
ochlorobromomethane	Ü	ND	0.00021	0.0028	•	4	•	u	el	
is-1,3-Dichloropropene	a	ND	0.00033	0.0028	H	4	*	· ·	н	
1,2,2-Tetrachloroethane	el .	ND	0.00025	0.0057	*	*	4	41	*	
ramolom	и	ND	0.00027	0.0028	•	P	."		•	
2,3-Trichloropropane		ND	0.6010	0.0028	•		ч	н	4	
2-Dibromo-3-Chioropropane	44	ND	0.00052	0.0057	ч			17	•	
exachlorobutadiene	#	ND	0.00006	0.0028	Ħ	•		*	41	
Surrogaie(s); Tolnene-d8 (Sm	1)		117%		85 -	115%				X. 1
1,2-Dichloroeth	ane-d4 (Surr)		106%		75 -	125%	Ð		a	
4-Bromofluorob	enzene (Surr)		128%		85 -	120%	•		**	X. 1
SH0168-11RE1 (GTP6-10-08	2809)	Soi	1		Samp	led: 08/2	8/09 10:36			
1-Dichloropropene	8260B STD Dry	ND	0.0064	0.14	mg/Kg dry	lx.	49928	09/09/09 15:36	09/10/09 00:56	
2-Dichlorobenzene	н	ND	0.0093	0,14	и	*	D	41	•	
Chlorotaluene	•1	ND	0.047	0.14		v	n	ц	fc	
omoniciliane	+1	ИD	0.090	0.50	*	н	"	u		
iloroethane	1	ND	0.082	1.4	•		•	•	ч	
chlorodifluoromethane	N	ND	0.029	0.14	u	M	•	••	-	
t-Butylbenzene	И	0.16	0.011	0.14	н	*	•	4	4	
	N .	53	0.075	1.4	h	10x	"		09/11/09 00:00	
4-Trimethylbenzene		ND	0.21	1.4	-	ls.	"		09/10/09 00:56	
•	P	ND							"	
nloromethane	P-	מא מא	0.018	0.14	*	4				
iloromethane ichlorofluoromethan e			0.018 0.018	0.14 0.072		•	11	и	*	
oloromethane ichlorofluoromethane I-Dichloroethane	ь ч ч	ND			# . H	4 9 D	" "	н	6 H	
oloromethane ichlorofluoromethane I-Dichloroethane E-Butylbeuzene	-	ND ND	0.018	0.072	P - 41	ti D	1) (4)	u n	5 11	
4,4-Trimethylbenzene nloromethane ichlorofluoromethane i-Dichloroethane Butylbenzene nyl chloride i-Dichlorobenzene	-	ND ND 4.5	0.018 0.018	0.072 0.14	#	e D II	11 12 14	u 11	5 11 (c	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell Report Created: 10/01/09 10:07

Volatile Organic Compounds (GC/MS)

Test America Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Díl	Batch	Prepared	Analyzed	Notes
SSH0168-11RE3 (GTP6-10	-082809)	So	il		Samp	pled: 08/2	8/09 10:36			
4-Isopropyltoluene	82608 STD Dry	27	0.010	0.14	mg/Kg dry	lx	49928	09/09/09 15:36	09/10/09 00:56	
cis-1,2-Dichloroethene	er e	ND	0.0086	0.14	H	'n	u	ø	•	
trans-1,2-Dichloroethene	"	ND	0.0/3	0.14	P	a	p		*	
1,1-Dichloroethane		ND	0.014	8.14			a	**	n	
1.4-Dichlorobenzene	n .	ND	0.018	0.14	v		15	•	a	
Chiorobromomethane	ď	ND	0.043	0.14	•	•		۳		
trans-1,3-Dichloropropene		ND	0.014	0.057		D	•	n	u	
Benzene	*	0.045	0.0090	0.057	10	u	Ð	•	n	
Chloro form	a	. ND	0.007.5	0.14		•		10		
Ethylene Dibromide	и	ND	0.011	0.14	, D	ь.	+	**	-	
1,1,1-Trichloroethane	*	ND	0,018	0.14	ø	••	0	**	"	
1,2-Dichloroethane	п	ND	0.0079	0.14	h	u	*	п	"	
Carbon tetrachloride		ND	0.013	0,072		*		F	н	
Trichloroethene	u	מא	0.012	0.057	•		•	м	*1	
1,2-Dichloropropane	и	ND	0.014	0.043		•		•	*	
Dibromomethane		ND	0.014	0,14	•	•		a	Þ	
Toluene	•	0.12	0.0086	0.14	4	и	¥	h	et .	
Dichlorobromontethane	4	ND	0.071	0.14		**		•	P	
1.1.2-Trichloroethane	•	ND	0.0064	0.043	4	n	*	•1	u	
cis-1,3-Dichloropropene	•	ND	0.0086	0.057	n	н			•	
Chlorobenzene	u	ND	0.0082	0.14	•		•	ч	•	
Tetrachloroethene	¥	ND	0.0075	0.072	п	a	40	ŋ		
1.3-Dichloropropane	o ·	ND	0.018	0.14	-	•	* '	•	*	
Ethylbenzene	•	3.2	0.013	0.14	и.		•	, n	n	
1,1,1,2-Tetrachloroethane		ND	0.017	0.14	٠.	"	•	•	•	
Chlorodibromomethane	ù	ND	0,029	0.14	4		"	U	•	
1,1,2,2-Tetrachioroethane	*	ND	0.012	. 0.036	u	4)	ĸ	•	11	
m-Xylene & p-Xylene	*	9.0	0.028	0.14	*			н	•	
o-Xylene	4	5.5	0.0082	0.14		•	•	*	u	
Styrene	•	ND	0.014	0.14	•	•	•1	r	.*	
Bromoform	•	NĎ	0.039	0,14	ь		4	u	ч	
lsopropylbenzene	ji.	1.6	0.0064	0.14	"			v	17	
Bromobenzene	я .	ND	0.0097	0.14	-	*	u	n	Р	
V-Propylbenzene	•	4.3	0.010	0.1-1	*		•	**	•	
1,2,3-Trichioropropane	a	ND	0.042	0.14	•		, "	u	и .	
2-Chlorotolucne	*	ND	0.019	0.14				•	•	
,3,5-Trimethylbenzene		13	0.015	0.14	n	"		н		
n-Butylbenzene	n	ND	0.026	0,14					n	
1,2-Dibromo-3-Chloropropane	п	ND	a. 2.√	0.72	•	•		H	9	

TestAmerica Spokane

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Randee Decker, Project Munager

Page 80 of 220



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99205-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Anniyte		Method	Result	MDL*	MRL	Units	Dil	Barch	Prepared	Analyzed	Notes
SSH0168-11RE	I (GTP6-10-08280	9)	So	il		Samj	oled: 08/	28/09 10:36			
1,2,4-Trichloroben	zene	4 1	ND	0.018	0.14	"			•	ь	
1,2,3-Trichtoroben	zene	U	ND	0.018	0.14	•	"	•	**	•	
Hexachlorobutadie	ne	ш	ND	0.020	0.14		*	•	н		
Naphthalene	•	n	38	0.21	1.4	٠	10x	•	11	09/11/09 00:00	
Surrogate(s):	Toluene-d8 (Surr)	,		100%		85	115%	lx	·· - · · · · · · · · · · · · · · · · ·	09/10/09 00:56	•
	Ethylbenzene-d10			110%		75	125%			*	
	4-Bromofluorobenzen			102%			- 120%	#		n	
	Fluorobenzene (Surr)	1		106%		75 .	125%	*		"	
SSH0168-12	(GTP6-2.5-082809)		So	il		Samp	led: 08/	28/09 10:10			
Bromomethane		8260B STD Dry	ND	0,00044	0,0011	mg/Kg dry	lx	49810	09/08/09 11:31	09/08/09 17:54	
Chloroethane		W	ND	0.00030	0.0011	4	•	0	μh		
Chloromethane		u	ND	0,00020	0.0011	• .	•	, ц	и	•	
trans-1,3-Dichlorop	propene	*	ND	0,00020	0.0011	4	р		Ħ		
Chloroform		p.	ND	0.00017	0.0011	**	μ			н	
Ethylene Dibromide	e .		· ND	0.00015	0.0011	"	٠		•	•	
,2-Dichloroethane			ND	0,00018	0.0011	*	•	u	4	,	
Carbon tetrachloride	e	P	ND	0.00042	1100.0		•	pl .	•	P	
Prichtoroethene		•	' ND	0.00020	1100.0	п	η.	•	u		
,2-Dichloropropan	e	0	ND	0.00019	0.0011	n	•	••	н	•	
Dichlorobromometh	nane	*	ND	0,000084	0.0011		"		•	•	
is-1,3-Dichloropro	реле	×	ND	0.00013	0.0011	"	п	u	u	*	
i,1,2,2-Tetrachloroe	ethane		· ND	0.00010	0.0023	¥	•	•	•	n n	
Bromoform		p	ND	0,000082	0.0011		"	U			
.2.3-Trichloroprop	ane		ND	0.00041	0.0011	h	•	•	n	4	
,2-Dibroma-3-Chlo	oropropane		ND	0.00021	0.0023			"	u	71	
lexachiorobutadien	le	•	ND	0.00038	0.0011	Ħ	•	•			
Surrogate(x):	Toluene-d8 (Surr)			100%		 85 -	115%	,		и	
	1,2-Dichloroethane-d4	(Surr)		104%			125 %	п		"	
	4-Bromofluorobunzene	(Surr)		109%		85 -	120%	n		at .	

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; {509} 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	· Method	Result	MDL*	MRL U	nits	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-12RE1 (GTP6-2.5-	082809)	So	1)		Sample	d; 08/2	8/09 10:10			
I,I-Dichloropropene	8260B STD Dry	ND	0.0025	0.056 mg/l	(g dry	lx	49928	09/09/09 15:36	09/09/09 20:55	
1,2-Dichlorobenzene	u	ND	0.0036	0.056	*	u	*	IP		
4-Chlorotoluene	н	ND	0.018	0.056	*	•	*	-	•	
Bromoniethane	u	ND	0.035	0.19	•	a	••	·	н	
Chloroethane	ti	ND	0.032	0.56	"	•	4	•	H	
Dichlorodifluoromethane	ú	ND	0.011	0.056	4	•	41	11		
tert-Butylbenzene	ij	ND	0.0044	0.056	4	*	11	•		
1.2.4-Trimethylbenzene	ñ	ND	0.0029	0.056	u	٠			•	
Chloromethane	•	ND	0.083	0.56			"	•	41	
Trichlorofluoromethane	ii	ND	0.0069	0.056		**	Ħ	4	4	
1.1-Dichloroethene	н	ND	0.0069	0.028	u	4	· n	•	•	
sec-Butylbenzene	и	ND	0.0069	0.056	٠.	"	*	4	•	
/inyl chloride	Ħ	ND	0.6024	0.011		а	•	•	μ	
.3-Dichlorobenzene	H	ND	0.0069	0.056	н	u	10	n	p	
,3-Dichloropropane	и	ND	0.005 [0.056	-	и	u	•	•	
lethylene Chloride	a)	0,045	0.0053	0.056	n		lı	u	41	بلار
-Isopropyltoluene	ıl	ND	0.0039	0.056		н	н	я	0	e.
is-1.2-Dichloroethene	41	ND	0.0033	0.056		•	N	u	μ	
ans-1,2-Dichtoroethene	u .	ND	0.6049	0.056		•		-	"	
,1-Dichloroethane	u	ND	0.0053	0.056	,,		*	•	••	
,4-Dichlorobenzene	u	ND	0,0069	0.056		ır	ŧi.	••		
Chiorobromomethane	0	ND	0.017	0.056	ıl		п	u	i n	
ans-1.3-Dichloropropene	tı	ND	0.0056	0.022	•				п	
lenzene		ND	0.0035	0.022	•		4		*	
hioroform		ND	0.0029	0.056	•	*	•			
thylene Dibromide		ND	0.0044	0.056		μ	**	-	H -	
I, I-Trichloroethane	u u	ND	0.0069	0.056	н	"	4	×	•	
2-Dichloroethane	ń	ND	0.0037	0.056			•	•	41	
arbon tetrachloride	п	ND	0.0051	0.028	•	•1	*		u	
richloroethene	и	ND	9.0047	0.022	•	*	-	•	•	
2-Dichloropropane		ND	0,0054	0.017	•	-		•	"	
ibromomethane	н	ND	0.0056	0.056			h	•	-	
oluene	н	ND	0.0033	0.056 "			• .	r	"	
ichlorobromomethane		ND	0.0042	0.056	,		•	u		
1.2-Trichloroethane		ND	0.0025	0,017 "			•	н		
s-1,3-Dichloropropene	1	ND	0.0033	0,022 · "	1		•			
hiorobenzene	U U	ND	0.0032	0.056 "	·			н	ú	
etrachloroethene	0	ND	0,0029	0.028				fe	0	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the claim of custody document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Mnnager

Page 82 of 220



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077 Project Manager:

Avery Landing Project Name:

Project Number: 073-93312-03

Doug Morell

Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

			TestAme	erica Ta	coma					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-12RE1 (GTP6-2.5-08	2809)	So	il		Samp	led: 08/	28/09 10:10			
1,3-Dichloropropane	8260B STD Dry	ND	0,0069	0.056	mը/Kը dry	lx	49928	09/09/09 15:36	09/09/09 20:55	
Ethylbenzene	0	ND	0.0051	0.056		*		"	υ	
1.1.1.2-Tetrachloroethane	a	ND	0,0067	0.056	7	v	li .	*	u	
Chlorodibromomethane	åt .	ND	0.011	0,056	*1		•	41	#	
.1.2.2-Tetrachloroethane	*1	ND	0.0046	0.014	•1		*	n	•	
n-Xylene & p-Xylene	41	. ND	0.011	0.056	*1	•	u	"	•	
-Xylene	41	ND	0,0032	0.056		•	U	u		
tyrene	15	סא	0.0053	0.056	P		u	u	"	
romoform	W	ND	0.015	0.056	ų	•			ч	
opropylbenzene	gt.	ND	0.0025	0.056		4	•	10	•	
romobenzene	a	ND	0.0037	0,056	•	in		•		
-Propylbenzene	и	ND	0,0039	0,056	•	*		ıı		
2,3-Trichioropropane	10-	ND	0,016	0.056	n	•	ú ,	ie.	•	
Chlorotoluene	10	ND	0.0075	0.056	II	н		n *	D	
3.5-Trimethylbenzene	,	ND	0,0058	0.056	u	-				
Butylhenzene	0	ND	0.010	0.056	N .	"	,,	•		
2-Dibromo-3-Chloropropane	n	ND	0.092	0.28	•	•	d	ú	**	
2,4-Trichlorobenzene	n	ND	0.0069	0,056	el.	'*	п .	ú	ri	
2,3-Trichlorobenzene	1)	ND	0.0069	0.056			•	ts.	u	
exachlorobutadiene	•	ND	0.0028	0.056	4	•	•		*	
phthalene		ND	0.0083	0,056	n.	"	•	10	•	
Surrogate(s): Toluene-d8 (Surr)	• • • • • • • • • • • • • • • • • • • •		97%	• • • • •	85 -	115%	,		n	
Ethylbenzene-d1()			107%			125 %		•	"	
4-Bromofinoroben	zene (Surr)		98%		85 -	120%	H		*	
Trifluorosoluene (S	Surr)		94%			125 %	#		и	
Fluorobenzene (Su	nr)		104%		75 -	125 %	#			
SH0168-13 (GTP6-17-082809)	Soi	l		Sampl	ed: 08/2	28/09 11:11			
omomethane	8260B STD Dry	ND	0.00038	0,0015	mg/Kg dry	1x	49810	09/08/09 11:31	09/08/09 18:18	
loroethane	•	ND	0.00047	0.0015		*	u	н		
loromethane	и .	ND	0.00027	0.0015	4	٠	+	*	6	
ns-1,3-Dichloropropene	le .	מא	0.00027	0.0015	и	•	41		0	
ioroform	n	ND	0.00022	0.0015	-#	10	•	**	•	
nylene Dibromide	lų .	ND	0.00020	0.0015	*		11	•1	•	
-Dichloroethane	n	ND	0.00024	0.0015			ч	a		
rbon tetrachloride	4	מא	0.00056	0.0015	0	,,	ri .	и	•	
chloroethene	11	_ מא	0.00027	0.0015	11	Ħ	•	п		
-Dichloropropane	ı,	ND	0.00026	0,0015	μ		*		4	

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-13	(GTP6-17-082809)		Soil	l		Samı	pled: 08/2	28/09 11:11		·	
Dichlorobromomet	hane	8260B STD Dry	ND	0.00011	0,0015	mg/Kg dry	ls.	49810	69/08/00 11:31	09/08/(۶) 18:18	
cis-1,3-Dichloropro	pene	*	ND	0,000 8	0.0015	b	n	D	•	•	
1,1,2,2-Tetrachioro	ethane	*	ND	0,00013	0,0030	и			4	n	
Bromoform		Ħ	ND	0.00011	0.0015	•	'n	U	41	U	
1,2,3-Trichloroprop	oane	a	ND	0.00055	0.0015	н	9		et	a	
1,2-Dibromo-3-Chlo	огоргорале	"	ND	0.00028	0.0030	×		b	4	41	
Hexachlorobotadier	ne		ND	0.00051	0.0015		at		4	a	
Surrogate(s):	Toluene-d8 (Surr)		• •	103%	• •		- 115 %	· ·			
ដល់ (បច្ចូលខ្យង់):	1,2-Dichloroethane-	då (Sure)		101%			- 115 %			,,	
	4-Bromofinorobenzo	•		120%			- 120 %	70		le .	
	· •										
SSH0168-13RE1	(GTP6-17-08280	9)	· Soil			Samp	led: 08/2	8/09 11:11			
1.1-Dichloropropens	c	82608 STD D _D	ND	0.0040	0.089	mg/Kg dry		49928	09/09/09 15:36	09/09/09 21:18	
1,2-Dichlorobenzene	e		ND	0.0058	0.089	•	₩.		**	**	
4-Chlorototuene		4	ND	0.029	0.089	•	*	u	14		
Bromomethane		11	ND	0.055	0.31	.**	4	"	I*	0	
Chloroethane		a .	ND	0.057	0.89	4	-	•	la.	ti	
Dichlorodiflaoromet	thane	Ø	ND	0.018	0.088	•	н	4	16	4	
tert-Butylbenzene		. 0	ND	0.0071	0.089	•1	н		"	# .	
1,2,4-Trimethylben	zehe	*	0.42	0.0047	0.089	-				H	
Chloromethane			ND	0.13	0.89		-	*	h	P	
Trichlorofluorometh	ane	'n	ND	0.077	0.089		•	4	4	Þ	•
1,1-Dichloroethene		n	ND	0.071	0.044		•	•	*	"	
sec-Butylbenzene	•		0.051	0.011	0.089	•		D		н	J
Vinyl chloride		n	ND	0.0038	810.0	n	•	P		*	
1,3-Dichlorobenzene	:	11	. ND	0.011	0.089	u	٠.	b	H .	**	
2,2-Dichloropropane	:	it	ND	0.0082	0,089			,	н	te .	
Methylene Chloride	:	el	0.30	0.0084	0.089	#		4	•	•	سنلسب
4-isopropyltoluene		**	0.55	0.0062	0.089	•		н	•	**	
cis-1,2-Dichloroethe	ne	•	0.095	0.0053	0.089	•	н	41	٠	•	
trans-1,2-Dichloroeth	nene	•	ND	0.0078	0.089	· ·	*	n	n .	n	
1.1-Dichloroethane		w)	ND	0.0084	0.089		Ħ	"	н .	•	
1,4-Dichlorobenzene		n.	ND	0.011	0.089	P	н	ıı	*	**	
Chlorobromomethane	е .	P	ND	0.027	0.089	n	. Р	R	49	ч	
trans-1,3-Dichloropro	opene	b.	ND	0.0089	0.036	•			•	٩	
Benzene		ħ	ND	0.0055	0.036	•		44	41	•	
_Chloroform			ND	0.0047	0.089		*	<u> </u>	**		
Ethylene Dibromide		es .	, ND	0.0071	0.089	Ħ	-	10			

TestAmerica Spokane

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Randee Decker, Project Manager

Janus Later 12





SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 (ax: (509) 924,929D

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd, Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dii	Batch	Prepared	Analyzed	Notes
SSH0168-13RE	[(GTP6-17-082809)		. Soi	il		Sam	pled: 08/2	8/09 11 <u>:11</u>			
1.1.1-Trichloroeth	ane	8260B STD Dry	ND	0.017	0.089	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 21:18	
1,2-Dichloroethan	2	15	ND	0,0049	0.089	el .	*		*	•	
Carbon tetrachlori	de	n	ND	0.0082	0.044	•1	п	•	*	n	
Trichloroethene		* **	0.023	0.0075	0.036	N	n		D	u	'n
1,2-Dichloropropa	ne	19	ND	0.0087	0.027	n	. n	*	•	U	
Dibromomethane		•	ND	0.0089	0.089	11	•	•	•	u	
Toluene		•	0.018	0.0053	0,089		-	-			.1
Dichlorobromomet	hane	•	מא	0,0067	0.089	ь	. *	*	e	u	
1,1,2-Trichloroetha	ine	*	ND	0.0040	0.027	,	H	•	4		
cis-1,3-Dichtoropn	opene	•	ND	0.0053	0.036			•	•	•	
Chlorobenzene		•	ND	0.0051	0.089	Р	•	11	11	"	
Tetrachloroethene		•	ND	0.0047	0.044	'n	•	•	•	u u	
1,3-Dichloropropa	18	•	ND	0.017	0.089			d	ď	п	
Ethylbenzene		•	0.072	0.0082	0.089		*		-	u	J
1,1,1,2-Tetrachloro	ethane	•	ND	0.011	0.089	H	•1	u'	*	н	
Chlorodibromoniet	hane	. •	ND	0.018	0.089	*1	•	•	4	•	
1,1,2,2-Tetrachloro	elhane	*	ND	0,0073	0.022	N	*1	u	*	el	
m-Xylene & p-Xyl	ene	н	0.16	0.017	0.089	6	4	a	n	-	
o-Xylene		fi .	0.088	Œ 005 I	G OBb	4	•	"		•	J
Styrene		•	ND	0.0084	0.089	Ħ	ii	4			
Bromoform		•	ND	0.024	0.089	42		•	•	v	
Isapropylbenzene			0.031	0.0040	0.089	-	"	•			J
Bromobenzene		•	ND	0,0060	0.089	8	п	•	* "		
N-Propylbenzene			0.053	0.0062	0.089	4	ч	n	•		J
1,2,3-Trichloroprop	ane	4	ND	0.026	0.089	41	u	1		(•	•
2-Chloratoluene		n	ND	0.012	0.089	u	н	"	14		
1,3,5-Trimethylber	izene		0.12	0.0093	0.089	•					
n-Butylbenzene		el	0.35	0.016	0.089	•	10			**	
1,2-Dibromo-3-Chlo	oropropane	n	ND	0.15	0.44	-	44		•	"	
1,2,4-Trichlorobenz	ene	1)	ND	0.011	0.089		*	u	*1	»	
1,2.3-Trichlorobenz	ene · ·	ir	ND	0.011	0.089	•	•	-	*		
Hexachlorobutadien	e	D	ND	0.012	0.089		•	•		•	
Naphthalene		H	0.36	0,013	0.089					4	
Surrogate(s):	Toluene-d8 (Surr)			100%		85 .	- 115 %	p ·		n	
	Ethylbenzene-d10			107%			123 70	n.		μ	
	4-Bromofluorobenzene (2	Surr)		102%			120%	,,		,,	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Fluorobenzene (Surr)			105%		<i>75</i> -	125 %			"	

Test∧merica Spokane

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1 Conde Calmade Rundee Decker, Project Manager





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924-9200 fax: (509) 924-9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/01/09 10:07

## Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Shift   CTTPT-2.5-082809	Notes	Analyzed	Prepared	Batch	Dij	Units	MRL	MDL*	Result	Method	le	Analyte
Chicroentiene				8/09 12:50	ed: 08/28	Sample		रा	So	2809)	68-14 (GTP7-2.5-08	SSH0168-14
Chloromethane   ND   0.00032   0.0013		09/08/09 18:41	09/08/09 [1:3]	49810	lx	mg/Kg dry	0.0012	0.00048	ND	8260B STD Dry	methane	Bromomethane
MING-1,3-Dichloropropene		41 .	n	in .	U	1)	0.0012	0.00033	ND	ш	ethane	Chloroethane
Chiconform   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   ND   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Wint   N, Win		4	u	a	U	u	0.0012	0,00022	ND	41	methane	Chloromethane
Elsylene Dikromide		U	п	. "	Þ	0	0.0012	0.00022	ИD	n	3-Dichloropropene	trans-1,3-Dichle
1,2-Dichloroethane				а		h	0.0012	0.00018	ND	u	òrm	Chloroform
Carbon tetrachloride		"			•	"	0.0012	0.00016	ND	"	e Dibromide	Ethylene Dibror
Trichloroptenee		N		10-	•	•	0.0012	0,00020	ND	a a	hloroethane	1,2-Dichloroeth
1,2-Dichloropropense		ie .	ų		-	*	0.0012	0.00046	ND	ú	tetrachloride	Carbon tetrachic
Dichlarobromomethane		19	v	η	H		0.0012	0.00022	ND		oethene	Trichioroethene
Cis-1,3-Dichloropropen=		,	.*	•	<b>P</b> I	μ	0.0012	0.00021	ND	۰	hloropropane	1,2-Dichloropro
1.1.2.2-Tetrachlorocethane					•	"	0.0012	0,000092	ND	*	obromomethene	Dichlorobromon
ND   0.00089   0.0012   " " " "   "   "   1.2,3-Trichloropropane   ND   0.00034   0.0012   " " " "   "   1.2,3-Trichloropropane   ND   0.00023   0.0012   " " " "   "   1.2,3-Trichloropropane   ND   0.00023   0.0012   " " "   "   1.2,3-Trichloropropane   ND   0.00023   0.0012   " "   "   1.2,3-Trichloropropane   ND   0.00023   0.0012   " "   1.2,3-Trichloropropane   ND   1.0096   75 - 125 %   "   1.2,3-Trichloropropane   ND   1.0096   75 - 125 %   "   1.2,3-Trichloropropane   ND   1.0096   NB   1.2,3-Trichloropropane   ND   0.0032   0.049   NB   NB   NB   NB   NB   NB   NB   N				и		•	0.0012	0.00014	ND	*	Dichloropropens	cis-1.3-Dichloro
1.2,3-Trichloropropane		•		и	h	i,	0,0025	0,00021	ND	•	Tetrachloroethane	1, 1, 2, 2-Tetrachle
ND   1.2-Dibromo-3-Chloropopane   ND   1.00023   0.0025		•		u		и	0,0012	0,000089	ND		חווו	Bromolorm
Hexachtorobutadiene		*			41	4	0.0012	0.00045	ND	•	ichloropropane	I,2,3-Trichlorop
Surrogate(s):   Tolivene-de (Surr)   100%   85 - 115 % "   "   "   "   "   "   "   "   "   "				n	b	•	0.0025	0.00023	ND	n	omo-3-Chloropropane	1.2-Dibromo-3-0
1,2-Dichlorosultane-d4 (Surr)   100%   75 - 125 % " " "   "   "     104%   85 - 120 % "   "   "		U	•	**	4	*	0.0012	0.00042	ND	ŋ	orobutadiene	Hexachlorobutac
SSH0168-14RE1 (GTP7-2.5-082809)   Soil   Sampled: 08/28/09 12:50		n	•	n	15%	85 - 11		101%		77)	rogate(s): Toinene-d8 (Si	Surrogate(x
SSH0168-14RE1 (GTP7-2.5-082809)   Soil   Samplet: 08/28/09 12:50     1,1-Dichloropropene   8260B STD Dry   ND   0.0022   0.049   mg/Kg dry   1x   49928   09/69/09 15:36   09/09/09 21:42     1,2-Dichlorobenzene   ND   0.0032   0.049   "		n		#	25 %	75 - 12		100%		ane-d4 (Surr)	1,2-Dichloroet	
1,1-Dichloropropene				<i>n</i> ·	20 %	85 - 12		104%	•	enzene (Surr)	4-Bromofluoro	
1.2-Dichlorobenzene				3/09 12:50	d: 08/28	Sampled		ı	Soi	82809)	58-14RE1 (GTP7-2.5-0	SSH0168-14R1
4-Chlorotoluene   ND   8.016   0.049   "		09/09/09 21:42	09/09/09 15:36	49928	lx	g/Kg dry	0.049 m	0.0022	ND	8260B STD Dry	loropropene	1,1-Dichioroprop
Bromonethane		41	•	4	•	n	0,049	0.0032	ND	•	lorobenzene	1,2-Dichlorobenz
Chloroethane         ND         0.028         0.49         """"""""""""""""""""""""""""""""""""		μ		. 1	•	*	0.049	0.016	ND	•	loluene	4-Chlorotoluene
Dichlorodifluoromethane         ND         0.0098         0.049         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "		-	•1	**	4)	н	0.17	0,031	ND	el	ethane	Bromomethane
terr-Butylbenzene         ND         0.0439         0.049         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "<		'n		"	D	II.	0.49	0.028	ND	*	hane	Chloroethane
1,2,4-Trimethylbenzene "ND 0.0026 0.049 " " " " " " " " " " " " " " " " " " "		tr.		,	n	и ,	0.049	0,0098	ND	•	difluoromethane	Dichlorodifluoro
Chloromethane         ND         0.073         0.49         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "		4		11		*	0.049	0.0039	ND	•	lbenzene	tert-Butylbenzens
Trichlorofluoromethane         ND         0.0061         0.049         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         <		•		<b>u</b> .	•	•	0.049	0.0026	ND	4	methylbenzone	1,2,4-Trimethylbo
1,1-Dichloroethene ND 0.0061 0.024 " " " " " " " " " " " " " " " " " " "		•	•	4	ч	**	0.49	0.073	ND		ethane	Chloromethane
sec-Butylbenzene " ND 0.0061 0.049 " " " " "		U	•	N	4	0	0.049	0.0061	ND	•	fluoromethane	Trichlorofluorom
,		•	•	•	-	n	0.024	0.0067	ND	•	oroethene	1,1-Dichloroether
Mind showles		4	4	•		,н	0.049	0.0061	ND		benzene	sec-Butylbenzene
A D NYWES AT A D NYWES		И		•	•	*	0.0098	0.0021	ND	•	oride	Vinyl chloride
1,3-Dichlorabenzene "ND 0.0061 0.049 " " " "		19	u	,	*	h	0.049	0.0061	מא		orabenzene	1,3-Dichlorabenz
"2.2-Dichloropropane" "ND0.00150.045 " " " " " " "	_	н	41	*	4	и	0.049	0.0043	ND	· ·	оторгорапе ————	2,2-Dichloropropa
Methylene Chloride 0.0047 0.049 W " " "	- Harris		H	4	**	41	0.049	0.0047	0.030	•	e Chloride	Methylene Chlor

TestAmerica Spokane

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SPOKANE, WA 11922 E. IST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 | fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created;

10/01/09 10:07

#### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dit	Batch	Prepared	Analyzed	Notes
SSH0168-14RE1 (GTP7-2.5-0	082809)	Soi	1		Samp	led: 08/2	8/09 12:50			
4-Isopropyltolnene	8260B STD Dry	0.0049	0.0034	0,049	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 21:42	
cis-1,2-Dichloroethene	ь	ND	0.0029	0.049	μ		lu		и .	
trans-1,2-Dichloroethene		ND	0,0043	0,049	н	u	0	и	4(	
1.1-Dichloroethane	45	ND	0.0047	0.049	н	N	n	N	11	
1,4-Dichlorobenzene	4	ND	0,0067	£049	*	#1	n	•	"	
Chlorobromomethane	11	ND	0.015	0.049	4	•	r	•	44	
trans-1.3-Dichloropropene	br .	ND	0.0049	0.020	· .	**	p.	•	e)	
Benzene	μ	ND .	0.0037	0.020	u	**	0		<b>0</b> 1	
Chloroform	*	NĐ	0.0026	0.049		<b>#</b> I		•	u .	
Ethylene Dibromide	•	ND	0.0039	0.049	*	•1	4	ь		
1,1,1-Trichloroethane	•	ND	0.0061	0.049	•	•	"	n	*	
1,2-Dichloroethane		ND	0,0027	0.049	*	n	•		H	
Carbon tetrachloride	•	מא	0.0045	0.024	*		4		*	
Trichloroethene	41	ND	0.0042	0.020	н	4		u	•	
1,2-Dichloropropane	•	ND	0.0048	0.015	* at		, n		•	
Dibromomethane	•	ND	0.0049	0.049	N		н	•	**	
Toluene	•	ND	0.0029	0.049		А	4	**		
Dichlorobromomethane	•	ND	0.0037	0.049	**	м		*	u	
1.1.2-Trichloroethane	•	ND	0.0022	0.015	•		н	"	н	
cis-1,3-Dichloropropene	41	ND	0.0029	0.020	,	**	"		a	
Cliforobenzene	41	ND	0,0028	0.049	**	"	•			
Tetrachloroethene		ND	0.0026	0.024		•	•	•	•	
1,3-Dichlarapropane	P	ND	0,0061	0.049	н	4)	h	•	- н	
Ethylbenzene		ND	0.0045	0.049	u	p	•	•	н	
1,1,1,2-Tetrachlorocthane	υ	ND	0.0059	0.049	и		*	μ	n	
Chlorodibromomethane	u	ND	D.009N	0.049	u	*	•		0	
1, 1,2,2-Temachloroethane	n	NĎ	0.0040	0.012	4			•	u	
m-Xylene & p-Xylene	•	ND	0.0095	0.049	4	н	•	**		
o-Xylene	n	ND	0.0028	0.049	я		-	P.	a	
Styrene	41	ND	0.0047	0.049	"		•		a	
Bromoform	41	ND	0.013	0.049	и	u	•	41		
Isopropylbenzene	D	ND	0,0022	0.049		u	*	•	<b>ei</b>	
Bromobenzene	H	ND	0.0033	0.049	×	н	н	*	en .	
N-Propylbenzene		ND	0.0034	0.049	*				н	
1,2,3-Trichloropropane	н	ND	0.014	0,049	•	•	и		•	
2-Chlorotoluene	41	ND	0.0066	0.049	•	"		. 41	u	
1,3,5-Trimethylbenzene	11	ND	0.0051	0.049	• .	•		•1	u	
n-Butylbenzene		ND	0.0089	0.049	*	-	4	4		

TestAmerica Spokane

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1 and water 20 Randee Decker, Project Manager





THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. IST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Botch	Prepared	Analyzed	Notes
SSH0168-14RE1	(GTP7-2.5-082809	))	S	oil		Samp	led: 08/	28/09 12:50			
1,2-Dibromo-3-Chlo	огоргорале	8260B STD Dry	ND	0,081	0,24	ту/Ку дгу	lx	49928	09/09/09 15:36	09/09/09 21:42	
t,2,4-Trichlarabenz	ene	ı.	ND	0.0061	0.049	"		"	<b>p</b> c	н	
1,2,3-Trichlorobenz	ene	u	ND	0,0061	0.049	4	n	*	4	•	
Hexachlorobutadien	ie	0	ND	0.0069	0.049		н	•	4	h	
Naphthalene		u	ND	0,0073	0.049	u	H	#I	u	н	
Surrogate(s):	Toluene-d8 (Surr)			101%		85 -	115%	μ		м	
	Ethylbenzene-d10			106%		75 -	125 %	#			
	4-Bromofluorobenzene	(Surr)		101%			120 %	ρ		•	
	Fluorobenzene (Surr)			103%		75 -	125 %	u		ė!	
SH0168-15 (	GTP7-10.0-082809)		St	il		Samp	led: 08/	28/09 13:27			
Bromomethane		8260B STD Dry	ND	0.00037	0.00097	mg/Kg dry	1x	49810	09/08/09 11:31	09/08/09 19:05	
Chloroethane		a	ND	0,00026	0.00097	n	ti ti	h	•		
Chloromethane		ч	ИD	0.00017	0.00097	4	h	ш		u	
rans-1,3-Dichloropr	ореле	н	ND	0.00017	0.00097	n	*		•	u	
Chioroform		•	ND	0.00014	0.00097	. •	*	•	*	n	
thylene Dibromide		н	ND	0.00013	0.00097	n	•	u		a	
.2-Dichloroethane		п	ND	0.00015	0,00097		•		*1	ď	
arbon tetrachloride		ij	ND	0.00036	0,00097	b	H			•	
richloroethene			ND	0.00017	0.00097	•		<b>H</b>	U	п	
2-Dichloropropane		6	ND	0.00017	0.00097	н	*	•	н `	*1	
och larabromanethe	ıne	. "	ND	0.000072	0.00097		u	*11	н	11	
is-1,3-Dichioroprop	ene .	п	ND	0.00011	0.00097	Þ	и		, +	n n	
.1,2,2-Tetrachloroet	hane	п	ND	0.000085	0.0019	11	10	ч	n	ч	
molom		•	ND	0,000070	0.00097		77	"		u	
2.3-Trichloropropa	ne	•	ND	0.00035	0.00097	Ð	**			(4	
2-Dibromo-3-Chlor	ropropane	u	ND	0,00078	0.0019	μ	n	U	n	**	
exachlorobutadiene	:	æ	ND	0,00033	0.00097		n	ů	R	**	
Surrogate(s):	Toluene-d8 (Surr)			104%		85 -	115%	n		**	
<del>-</del> -	1,2-Dichloroethane-d4	(Surr)		114%		75 -	125 %	п		v	
	4-Bromofluorobenzene	(Surr)		114%		85 -	120%	11		34	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number:

073-93312-03

Report Created:

Project Manager: Doug Morell

10/01/09 10:07

# Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL U	nits	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-15RE1 (GTP7-10.0	0-082809)	Sol	I		Samp	led: 08/2	8/09 13:27		<u> </u>	
1,1-Dichtoropropene	8260B STD Dry	ND	0,0019	0,041 mg/1	(g dry	1x	49928	09/09/09 15:36	09/09/09 22:06	
1,2-Dichlorobenzene	н	ND	0.0027	0,041		#	H	N	u	
4-Chlorotoluene		ND	0,013	0.041		10	4	41	u	
Bromomethane	h	ND	0.026	0.15	•	10	"	•	"	
Chloroethane	"	ND	0.024	0.41		l•	n	*	•	
Dichlorodifluoromethane	e)	ND	0.0083	8.041	•	40	Ð	•	*	
tert-Butylbenzene	"	ND	0,0033	0.041	*	•	#		-1	
1,2,4-Trîmethylbenzene	н	ND	0.0022	0.041	•	**	• .	*	n.	
Chloromethane	11	ND	0.062	0.41		4	*	**		
Frichlorofluoromethane	"	ND	0.0052	0.041		•	•	b	*	
1,1-Dichloroethene	II.	ND	0.0052	0.021		*	U		μ	
sec-Butylbenzene	н	ND	0,0052	0.041	•	•	4	n	an	
Vinyl chloride	ч	ND	0.001N	0.0083			a		**	
3-Dichlorobenzene	W.	ND	0,0052	0.041	•	н	"	•	и	
,2-Dichloropropane	и	ND	0.0038	0.041	•	n	μ	н	ü	
lethylene Chloride	10	D.OTT	0.0039	0.041 <b>LL</b>	n	n		4	и	نسر
Isopropylioluene	п	ND	0.0029	0.041	•		•		u	•
is-1,2-Dichloroethene	ν	ND	0.0025	0.041		**		**	•	
ans-1,2-Dichloroethene	Ü	ND	0,0034	0.041	•	•	•		•	
, I-Dichloroethane	Ü	ND	0.0039	0.041	-	•			#	
4-Dichlorobenzene	R	ND	0.0052	0.04}		U	*	•	Ħ	
hiorobromomethane	н -	ND	0.012	0.041	×	*	•	•	P	
ans-1,3-Dichloropropene	•	ND	0.0041	0.017	•		*	**		
enzene	el .	ND	0,0026	0.017	•	н	•	*	7	
:hiarofom:	di .	ND	0.0022	0.041	•	ii .	•	•	40	
thylene Dibromide	41	ND	0.0033	140.0	41	0		•	и	
1,1-Trichloroethane	•	ND	0.0052	0.041	•	"		"		
,2-Dichlorosthane	•	ND	0.0023	0,041	•	"	*	•	•	
arbon tetrachloride	н	ND	9.0038	0.021		н	•	N		
rich loroethene	0	ND	0.0035	0.017	ı	**	- "	H	н	
2-Dichloropropane	ti .	ND	0,0040	0,012	,	•	H	ч	11	
ibromomethane	N	ND	0.0041	0.041		**	•	"	•	
oluene		ND	0.0025	0.041		"	*	••	•	
ichlorobromomenhane	Ú	ND	0.0031	0.041	•	n	þi	0		
1,2-Trichloroethane	n	ND	0.0019	0.012	ı	×	*	U .	•	
s-1,3-Dichloropropene	1)	ND	0.0025	0.017		.1	41	•	•	
hiorobenzene	•	ND	0.0024	0.041	•			•	-	•
etrachloroethene	*	ND	0,0022	0.02 i	-	0	b		<del></del> -	

TestAmerica Spokane

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SPOKANE, W

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: **Avery Landing** 

Project Number: 073-93312-03 Project Manager: Doug Morell Report Created: 10/01/09 10:07

## Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	, Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-15RE1 (GTP7-10.0	)-082809)	Sc	oil		Sam	pled: 08/	28/09 13:27			
1,3-Dichloropropane	8260B STD Dry	ND	0.0052	0.041	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 22:06	
Ethylbenzene	1	ND	0.0038	0.041	n	•1		н	•	
1.1,1,2-Tetrachioroethane	*	ND	0.0030	0.041	,,	"	Ħ	к	*	
Chlorodibromomethane	•	ND	0.0083	0.041		n	ıı	le	*	
1, 1, 2, 2-Tetrachloroethane	•	ND	0,0034	0.010	U	ь		b	•	
m-Xylene & p-Xylene	*	DИ	0.0081	0.041	4	h	ŧ1	D	tr.	
o-Xylene	•	ND	0.0024	0.041	11	4)	N .	n	et.	
Styrene	•	ND	0.0039	8.041		n			U	
Bromo form	•	ND	0,017	0.041		•			•	
lsopropylbenzene	•	ND	0.0019	0.041		и	ŧ		u	
Bromobenzene		ND	0.0028	0.041	q	μ	D	u	"	
N-Propylbenzene	и	ND	0.0029	0.041	и	•	4	•	n.	
1.2.3-Trichloropropane	•	ND	0.012	0.041	•	•	n		ài	
2-Chlorotoluene	ŧŧ	, ND	0.0056	0.041		41	M	•	4	
1,3,5-Trimethylbenzene	D	ND	0.0044	0.041		. *	u	41	•	
n-Butylbenzene	. <b>n</b>	ND	0,0076	0.041	4	**	u	u	. <b>n</b>	
,2-Dibromo-3-Chloropropane	•	ND	0.068	0.21	,,	b	4	u	10 :	
,2,4-Trichlorobenzene	. *1	ND	0,0052	0.041		41			"	
.2,3-Trichlorobenzene	**	ND	0.0052	0,041	•	*	•	a		
lexachlorobutadiene	19	ND	0.0058	0.041	s		9	u	4	
Naphthalene	•	ND	0,0062	0.041	•	п	,	×	•	
Surrogate(s): Toluene-d8 (Su	rri)		99%			115%	w		a	•
Ethylbenzene-u			108%			125 %	N		r!	
4-Bromofluoro	benzene (Surr)		98%		85 -	120 %	n		R	
Trifluorotoluen	e (Surr)		90%		75 -	125 %	# .		e	
Fluorobenzene	(Surr)		107%		75 -	125 %	**		et	
SH0168-16 (GTP7-18-0828	309)	Soi	'I		Samp	led: 08/2	28/09 13:58			
fromomethane	82608 STD Dry	מא	0.00029	0.00074	mg/Kg dry	l s	49810	09/08/09 17:31	09/08/09 19:29	
hloraethene	•	ND	0.00020	0.00074	•	50	B		н	
hioromethane	•	ND	0.00013	0.00074	-					
ans-1,3-Dichloropropene	•1	ND	0.60013	0.00074	b	и	u	h	. •	
hloroform	•1	ND	0.00011	0.00074	•		a	4	"	
thylene Dibromide	<b>.</b>	ND	0.000098	0.00074		•	Ħ	lı	, в	
,2-Dichloroethane	ŋ	ND	0,00012	0.00074		'n		le	h	
arbon tetrachloride	B.	ND	0.00028	0.00074		•		ч		
richloroethene	•	ND	0.00013	0.00074		•1	*	N		
,2-Dichloropropane		ND	0,00013	0.00074		- ,	·			

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Randee Decker, Project Manager





11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number: Project Manager: Avery Landing

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

## Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-16 (GTP7-18-08	2809)	Soi	il_		Samy	oled: 08/2	8/09 13:58			
Dichlorobromomethane	8260B STD Dry	ND	0.000055	0.00074	mg/Kg dry	Ix	49810	09/08/09 11:31	09/08/09 19:29	
cis-1,3-Dichloropropene	•	ND	0.000087	0.00074		4	D	n	4	
1,1,2,3-Tetrachloroethane	*	ND	0.000065	0.0015	•	*	u	, 4	-{u	
Bromoform	И .	ND	0.000053	0.00074	D.	4	*	19	n	
1,2,3-Trichloropropane	n	ND	0.00027	0.00074				ū	и	
1,2-Dibromo-3-Chloropropane	"	ND	0.00013	0.0015	4	*1	"	H	"	
Hexachlorobutadiene	. "	ND	0.00025	0.00074	. •		a	*	•	
Surrogate(s): Toluene-d8 (5	Surve)		103%	••	. 85.	- 115 %				<del></del>
• • • • • • • • • • • • • • • • • • • •	thane-d4 (Surr)		105%			- 125 %	0		"	
	obenzene (Surr)		112%		85	- 120 %	н		"	
SSH0168-16RE1 (GTP7-18-	082809)	Soi	1		Samp	oled: 08/2	8/09 13:58			
I, )-Dichloropropene	8260B STD Dry	ND	0.0018	0.039	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 22:30	
1.2-Dichlorobenzene	и.,	ND	0.0025	0.039		а				
4-Chlorotoluene	п	ND	0.013	0.039	ь			••	*	
Bromomethane	u	ND	0.024	0,14	н	19		н	Þ	
Chloroethane	a	ND	0.4/22	0.39	•1	a	• •		4	
Dichlorodifluoromethane	•	ND	0.0078	0.039	•1		b	•		
tert-Butylbenzene	•	ND	0.0031	0.039	"			•		
1,2,4-Trimethylbenzene		ND	0.0021	0.039	а	*	**	u	4	
Chioromethane	D	ND	0.059	0.39	je.	ч		u		
Trichlorofinoromethane	n	ND	0.0049	0.039	ú			. •	• .	
1,1-Dichloroethene	•	ND	0.0049	0.020	4	þ	18	n	•	
sec-Buylbenzene	•	ΝD	0.0049	0.039	•	н	"			
Vinyl chloride	4	ND	0.6017	0.0078	n			41		
1.3-Dichlorobenzene	Đ.	ND	0.0049	0.039	4	k	•	4t	ii	
2.2-Dichloropropage	D.	ND	0.0036	0.039	4	n	n	*	4	
Methylene Chloride	•	سسيهما	0.0037	0.039	լ "				ч	سيخاج لمبيع
4-Isopropyltoluene	ú	, ND	0.0027	0.039	16	+	•	1)	4	
cis-1,2-Dichloroethene	•	ND	0,0023	0.039	**	•	•	U	4	
trans-1_2-Dichloroethene	•	ND	0.0034	0.039	Ð	•	u	•	R:	
I, i-Dichtoroethane	•	ND	0.0037	0.039	P	и	11	al	4	
1.4-Dichlorobenzene		ND	0,0049	0.039	-+1	*	N	14	•	
Chlorobromomethane		ND	0.012	0.039	11	٠	"		,	
trans-1.3-Dichloropropene	. •	ND	0.0039	0.016			ú	n	u	
Benzene	•	ND	0.0024	0.016	u		•	n	-	
Ghloroform		ND	0,0021	0.039		<u></u>	n	a	4	•
Ethylene Dibromide		ND	0,0037	0.039		la .			•	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager

Page 91 of 220



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: 0

Project Manager: D

073-93312-03 Doug Morell Report Created:

10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

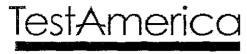
TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-16REI (GTP7-18-0	82809)	Soi	<u>1</u>		Samp	lcd: 08/2	8/09 13:58			
1.1.1-Trichloroethane	8260B STD Dry	ND	0,0049	0.039	πg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 22:30	
1,2-Dichloroethane	•	ND	0,0021	0,039		•	•	•	u	
Carbon tetrachloride	W	ND	0.0036	0.020	n	41	ρ	4	u	
Trichloroethene	u	ND	0.0033	0.016		٠.	ď	(1	4	
1,2-Dichloropropane	W .	ND	0.0038	0.012		4	•	•	n	
Dibromomethane	ų	מא	0,0039	0.039	"	4	*	•1	v	
Toluene	el .	ND	0.0023	0,039	•	14		. п	и	
Dichlorobromomethane	И	ND	0.0029	0,039	wi .	*	P		ч	
1.1.2-Trichloroethane	Į.	ND	0.0018	0.012		n	•	. "	1•	
cis-1,3-Dichloropropene	ti	ND	0.0023	0.016	•		•	•	h	
Chlorobenzene	u	ND	0,0022	0.039			b	0	ч	
Tetrachloroethene	π	ND	0.0021	0.020		*	h	0	•	
1.3-Dichloropropana	*	ND	0,0049	0.039	n	u	n	¥1.	h	
Ethylbenzene	11	ND	0.0036	0.039	a	17	**		н	
1. I, I,2-Tetrachloroethane	n	ND	0.0047	0.039	*	I.			11	
Chlorodibromomethane	n	ND	0.0078	0.039	•1	и	ft ft		*	
l, 1, 2, 2-Tetrachloroethane	и	ND	0,0032	0.0098	н	**	•	••	٠	
n-Xylene & p-Xylene	#I	ND	0.0076	0.039			ņ	U	<b>4</b> ,	
o-Xylene	N	ND	0.0022	0.039	ч			ш	u	
Styrene	н	ND	0.0037	0.039	-		*	•	4	
3romotorm	υ	ND	0.011	0.039		4	<b>#</b> }	**	4	
sopropylbenzene	II	ND	0.0018	0.039	ų		U	þ		
Bromobenzene	н	ND	0.0026	0.039	•	**	"	-	"	
N-Propylbenzene	•	מא	0.0027	0.039	•	•	•	a	•	
1,2,3-Trichloropropane		ND	0.011	0.039					u	
-Chlorotoluene	h.	ND	0.0053	0.039	n	•		41	'n	
,3,5-Trimethylbenzene	u	ND	0.0041	0.039	4	H	•	•	•	
-Butylbenzene	н	ND	0.0071	0.039	ie .	•	•	P	•	
,2-Dibromo-3-Chloropropane	•	ND	0.064	0.20	p.	•	•	u		
,2.4-Trichlorobenzene	H	ND	0.0049	0.039	и	u	n		*,	
.2.3-Trichtorobenzene	•	ND	0.0049	0.039	н			p-	4	
lexachlorobutadiene	ì	ND	0.0055	0.039	'n		•	H	ás .	
laphthalene	70	ND	0.0059	0.039	10	•	•	• -	19	
Surrogate(s): Tolnene-d8 (Surr	)		96%		85 - 4	15%	ş;		и	
Ethylbenzene-dl			107%			125 %	tt		tt	
4-Bromofinorobe			96%			20 %	**		*1	
Trifluorotoluene Fluorobenzene (S			79% 105%		75 - 75 - 75 - 75 - 75 - 75 - 75 - 75 -	25 %	11		n	

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

Test America Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dîl	Bateli	Prepared	Analyzed	Notes
SSH0168-17 (GTP2-2.5-0827	709)	So	il		Samp	led: 08/2	7/09 11:40			
Bromomethane	8260B STD Dry	ND	0.00057	0.0015	mg/Kg dry	ix	49722	09/04/09 12:30	09/04/09 18:01	
Chloroethane	at .	ND	0.00039	0.0015	*		"	"	"	
Chloromethane	H	ND	0.00026	0.0015	Į#.	ls .	n	и		
trans-1,3-Dichloropropene		ND	0.00026	0.0015	*		9	. *	*	
Chloroform	. •	ND	0.00022	0.0015	4		•			
Ethylene Dibromide	•	ND	0.00019	0.0015	"		"	**	**	
,2-Dichioroethane	•	ND	0.00023	0.0015	•			h	р	
Carbon tetrachioride		ND	0,0005	0.0015	•	PI		*1		
richloroethene	*	0.060 🐧	0.00026	0.0015	4	•1	b	ı	•	
,2-Dichloropropane	u	ND	0.00025	0,0015	•1		,	U	4	
Dich loro bromomethane	•	ND	0.00011	0.0015	u	4)	н	,	b	
is-1,3-Dichloropropene	•	ND	0.00017	0.0015	u		"	•	u	
, 1,2,2-Tetrachloroethane	В	ND	0.00013	0.0029	а	•	n	b	•	
romoform	P	ND	0.00011	0,0015		ч	ч	η	•	
2,3-Trichtoropropane	,	ND	0.00053	0.0015	•	"		**	*	
2-Dibromo-3-Chloropropane	•	ND ·	0.00027	0,0029	•		•	•1	*	
exachlorobutadiene	μ	ND	0.00019	0.0015	ь	u	*1	•1		
Surrogate(s): Toluene-d8 (Surr	)		122%		85 -	115%			er	X. I
1,2-Dichlornetha	•		116%			125%	n		H	Λ. 1
4-Bromofluorobe			127%	•		120 %	"		и	X. I
SH0168-17RE1 (GTP2-2.5-08		Soil	ı		Samul	ed: 88/2	7/09 11:40			
1-Dichloropropene	8260B STD Dry	ND ND	0,0098	0.22	mg/Kg dry	lx	49928	09/09/09 15:36	09/09/09 32:55	
2-Dichlorobenzene	*	ND	0.01-1	0,22	II	n	•	*	4	
Chlorotoluene	•	ND	0.077	0.22	-				6	
ontomethane	N	ND	0.14	0.77						
rloroethane	N	ND	0.73	2.2	4		v	ü		
chlorodilluoromethane	M	ND	0.044	0.22		*1		-	4	
rt-Butylbenzene	N	ND ND	0.017	0.22		•		•	•	
2,4-Trimethylbenzene	D	ND ND	0.011	0.22		.,		ų		
laromethane	U	ND	0.33	2.2			•			
ichlorofluoromethane	<b>u</b>	ND	0.027	0.22	D	a		ų	a	
-Dichloraethene	*	ND	0.027	0.11		*		u		
-Butylbenzene	n	ND	0.027	0.22	4		•			
nyl chloride	D.	ND	0.0093	0.044	•		•1	•1		
my: cnioride 3-Dichtorobenzene		ИD	0.00 <b>9</b> 3 0.027	0.044	*1	•	•	4,	n	
		MD	12.027	كنتيرارا						
-Dichloropropane		ND	-0.020-	0.22		¥	wr.	11		

TestAmerica Spokane

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Randee Decker, Project Manager

Jana Saler Voit





Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyle	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-17RE1 (GTP2-2.5-	082709)	Soi	1		Samp	led: 08/2	7/09 11:40			
4-Isopropyltoluene	8269B STD Dry	מא	0.015	0.22	mg/Kg dry	ix	49928	09/09/09 15:36	09/09/09 22:55	
cis-1,2-Dichloroethene	ú	ND	0.013	0.22	ei	4	u	u	*	
trans-1,2-Dichloroethene	(c)	DN	0.019	0.22	u	•	"	*	•	
1.1-Dichloroethane	N	ND	0.021	0.22	n n	•	*	4	o,	
1.4-Dichlorobenzene	*	ND	0.027	0.22	D	u	•	•	ч	
Chlorobromomethane	*	ND	0.066	0.22	W		*		•	
trans-1,3-Dichloropropene	it	ND	0.022	0.087	d	u	п		*	
Benzene	ä	ND	0.014	0.087	a	P	a	u	•	
Chloroform	•	ND	0.011	0.22	п	•1	."	*	41	
Ethylene Dibromide	•	ND	0.017	0.22	*	•		āş.	10	
1,1.1-Trichloroethane	U	ND	0.027	0.22	•		))		•	
1,2-Dichlorosthane	n	מא	0.012	0.22	•	•	••		**	
Carbon tetrachloride	ø	ND	0.020	0.11		a		•	u	
Trichloroethene	U	0.98	0,019	0.087	•	и	*	4	~	
1,2-Dichloropropane	- N	ND	0.021	0.066			-		11	
Dibromomethane		ND	0.022	0.22	*	**			41	
Toluene	p p	0.040	0.013	0.22	"	21	4	•	*	Į.
Dichlorobromomethane	н	ND	0.016	0.22	4		4	#	*	
1,1,2-Trichloroethane	M.	ND	0.0098	0.066	11 -	μ.	4	"	ц	
cis-1.3-Dichloropropene	*1	ND	0.013	0.087	v	•1	m		"	
Chlorobenzene	P	ND	0.013	0.22		•1		**	•	
Tetrachloroethene	lr .	ND	0,011	0.11	٠.	"	4		6	
1.3-Dichloropropane	U	⊷ND	0.027	0.22		44	ч		4	
Ethylbenzene	•	ND	0.020	0.22	+	#	#	н	-	
1, 1, 1,2-Tetrachioroethane	•	ND	0.026	0.22	•		н		, н	
Chlorodibromomethane	a ·	ND	0.044	0.22	U	**	н	"	-	
1,1,2,2-Tetrach)oroethane		ND	0.018	D. <b>05</b> 5	n		•	•	u	
m-Xylene & p-Xylene	M	0.048	0.043	0.22			11	н	n	J
o-Xylene	1)	0.017	0.013	0.22	•1	h	h	*	ú	J
Styrene	ø	ND	0.027	0.22	n	н	. •		4	
Bromoform	U	ND	0.060	0.22	п	*	4	•		
Isopropylbenzene	n	ND	0.0098	0.22	•		"	•	n	
Bromobenzene	п	ND	0.015	0.22		41	ti .		u	
N-Propylbenzene	×	ND	0,015	0.22	4	11	ч	ч	47	
1,2,3-Trichloropropane	<b>.</b>	ND	0,063	0,22		и	*	ч	'n	
2-Chlorotoluene	*	ND	0.030	0.22		•			*	
1,3,5-Trimethylbenzene	1)	ND	0.023	0,22		10		•)	u	
n-Butylbenzene		ND	0.040	0.22				<del></del> -	(	

TestAmerica Spokane

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 (ax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-17RE	i (GTP2-2.5-082	.709)	S	oil		Samp	led: 08/	27/09 11:40			
1,2-Dibromo-3-Ch	Joropropane	8260B STD Dry	ND	0,36	1.1	mg/Kg dry	lх	49928	09/09/09 15:36	09/09/09 22:55	
1,2,4-Trichloroben	zene	n	ND	0.027	0.22	*		•	u	•	
1.2.3-Trichloroben	zene	a	ND	0.027	0,22	10	4	•	н	•	
Hexachlorobutadie	ene	įŧ	ND	0.031	0.22	u	u	*	•	u	
Naphthalene		4	מא	0.033	0.22	u	79	-		•	
Surrogate(s);	Toluene-d8 (Surr)	•		99%		. 85 -	. 115%	··· ·· <del>·</del> · · · ·		# ·	
	Ethylbenzene-d10			100%			125 %	n		и	
	4-Bromofluoroben	zene (Surr)		99%			120%	rt .		**	
	Fluorabenzene (Su	ur)		104%		75 -	125 %	"		u	
SSH0168-18	(GTP2-8-082709)		Sc	oil		Samp	led: 08/	27/09 11:58			
Bromomethane		8260B STD Dry	ND	0.00042	0,0011	mg/Kg dry	Jx	49722	09/04/09 (2:30	09/04/09 18:25	
Chloroethane		в .	ND	0.00029	1100,0	-	-		-		•
Chloromethane		p.	ND	0.00019	0.0011	-	•		1)	-	4
trans-1,3-Dichlorop	propene	U	ND	0.00019	0.0011	4.	•		n	•	
Chloroform			ND	0.00016	0.0011	•1	u	"	н	٠.	
Ethylene Dibromid	e	и	ND	0.00014	0.0011	п	u		W	u	
1,2-Dichloroethane		4	ND	0.00017	0.0011	n	н	4	•	u	
Carbon tetrachionid	e	•	ND	0.00040	0.0011	п	u ·		•	h	
Trichlaroethene		u	0.011	0.00019	0.0011			**	π		
1,2-Dichloropropan	ne	•	ND	0,00018	0.0011	и		•			
Dichlorobromometl	hane	4	ND	0.000080	0.0011	hu	н	a	-+	ш	
cis-1,3-Dichloropro	pene		ND	0.00073	0.0011	•	-	49	ŋ	*	
1,1,2,2-Tetrachloro	ethane		ND	0.000095	0.0022	a	*	•			
Bromotorm		n	ND	0.000078	0,0011	n	•	ıı	н	P	
1,2,3-Trichloroprop	ane	u	מא	0.00039	0.0011	- •	ь		•1		
1,2-Dibromo-3-Chle	oropropane		ND	0.00020	0,0022	N	u	N	• .	•	
Hexachlorobutadien	10	in .	ND	0.00036	0.0011	at .	н		<b>e</b> t		
Surrogate(s):	Toluene-d8 (Surr)			104%			115%	"	·	"	
6 1.21	1,2-Dichloroethane	-d4 (Surr)		102%			125%	n .			
	4-Bromofluorobenza	ene (Surr)		110%		85 -	120%	tt		u	

TestAmerica Spokane

Randee Decker, Project Manager

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11922 E, 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Azın İyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-18REI (GTP2-8-0	82709)	Soi	 I		Samp	led: 08/2	7/09 11:58			
1,1-Dichlaropropene	826NB STD Dry	ND	0.0032	0.072	տալ/Kը dry	או	49928	09/09/09 15:36	09/09/09 23:19	
1,2-Dichtorobenzene	10	ND	0.0047	0.072	4			•	•	
4-Chloratoluene	16	ND	0.023	0.072	•		v	H		
Bromomethane	*	ND	0,045	0,25	10		•		и	
Chloroethane	м	ND	0.041	0.72	н	-	•	ű	a	
Dichlorodifluoromethane	μ	ND	0.014	0.072	•		*	н	*	
en-Butylbenzene	li .	ND	0,0058	0.072	N	•	•	ų	и	
1,2,4-Trimethylbenzene	n	ND	0.0038	0.072	*	-	N		•	
Chloromethane	n	ND	0.11	0,72			•	•		
Frichlorofluoromethane	н	ND	0,0090	0.072	11-	•	H	el		
, I-Dichloroethene	ú	ND	0,0090	0.036	4	•	¥	И		
ec-Butylbenzene	n .	ND	0.0090	0.072	. •	•1	ar	n.	4	
'inyl chloride	и	ND	0.11031	0.014		,	u		••	
3-Dichlorobenzene	b	ND	0,0090	0.072	-	н	"	. "	44	
2-Dichloropropane	<b>#</b>	ND	0.0067	0.072		u	"	u	4	
ethylene Chioride	h ,	0,23	0.0068	0.072	•	•		Ħ	1)	_
isopropyltaluene	н	ND	0.0050	0.072	11		ч	n	н	
s-1,2-Dichloroethene		ND	0.0043	0.072		•	"	•	•	
ins-1,2-Dichioroethene	11	ND ·	0.0063	0.072	•	v		u	•	
I-Dichloroethane	п	ND	0,0068	0.072	н		14	, 44	41	
4-Dichlorobenzene	, <b>n</b>	ND	0.0090	0.072	U		•			
nlorobromomethane		ND	0,022	0.072	II .		•	•	te .	
ns-1,3-Dichloropropene	u	ND	0.0072	0.029	u		M	0	46	
enzene	ń	ND	0.0045	0.029	•		"	. "	μ	
molerole	п	ND	0.0038	0.072	N	*	u	Ħ	н	
hylene Dibromide	•	ND	0.005K	0.072	•	*		ú	rt	
1,1-Trichloroethane	14	ND	0.0090	0.072	4	"	u	"	н .	
2-Dichloroethane	6	ND	0,0040	0.072			u	n	"	·
rbon tetrachloride	N	ND	0.0067	0.036			u	N	•	
ichloroethene	0	0.17	0.0061	0.029	п	71	н	μ		
-Dichloropropane	u	ND	0,0070	0.022	l•	*	ÞI	*	•	
onomei hane	u	ND	0.0072	0.072	M	*1	*	P	-	
ucne	*	0.013	0,0043	0.072		•	••	•	-	
chlorobromomethane	a ,	ND	0,0054	0.072	*		•	*	н	
2-Trichloroethane	íi.	ND	0,0032	0.022	••	•		ч		
-1,3-Dichloropropene	n .	ND	0,0043	0.029		<b>*</b> .	· n		<b>.</b>	
lorobenzene		ND	0.0041	0.072	*	•	"		at.	
rachlomethene	11	ND	0.0038	0,036			"	ч		

TestAmerica Spokane

The results in this report apply to the samples unalyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: Project Manager: **Avery Landing** 

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

#### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	lid	Batch	Prepared	Analyzed	Notes
SSH0168-18RE1 (GTP2-8-082	709)	So	il		Sam	pled: 08/	27/09 11:58			
1,3-Dichloropropane	8260B STD Dry	ND	0.0090	0,072	mg/Kg dry	кl	49928	09/09/09 15:36	09/09/09 23:19	
Ethylbenzene	Ü	ND	0.0067	0.072	,	*		n	٠.	
1,1.1,2-Tetrachloroethane	i.	ND	0.0086	<b>0.072</b>			A	Ħ	**	
Chlorodibromomethane	įi.	ND	0.014	0.072				*	. •	
1,1,2,2-Tetrachloroethane	u	מא	0.0059	810,0	N		*	•	*	
m-Xylene & p-Xylene	u .	ND	0.014	0,072	•	۳.	*	•:	и,	
o-Xylene	ø	ND	0.0041	0.072	*	n	*	n	М	
Styrene	. 0	ND	0.0068	0.072		ŧ		P.	P	
Bromoform	В	ND	0.020	0.072	•	u	n	и	•	
Isopropylbenzene	u	ND	0.0032	0.072	•	"		. "		
Bromobenzene	и	ND	0.0049	0.072		н	"		-	
N-Propylbenzene	a	טא	0,0050	0.072	-	Þ	**		4	
1,2,3-Trichloropropane	и	ND	0.021	0.072	4	h		4	. 4	
2-Chlorotoluene	jų .	ND	0,0097	0.072	a	n,	**	n	"	
1,3,5-Trimethylbenzene		ND	0.0076	0.072	"	,	41	н	"	
n-Butyibenzene	*	ND	0.013	0.072	d			•	•	
1,2-Dibromo-3-Chloropropane	4	ND	0.12	0.36	II.	•	۳.	•	*	
.2.4-Trichlorobenzene	и	ND	0,0090	0,072	al			٠	ti	
1.2,3-Trichlorobenzene	Ħ	ИD	0.0090	0.072		u	•	M	4	
dexaction obutadienc	ø	ND	0.010	0.072	*	n	•1	b		
Naphthalene	•	ND	0.011	0.072	•	•	•	**	н	
Surrogate(s): Toluene-d8 (Surr)		•	103%		85 -	115%	"	······································		
Ethylbenzene-d10			104%		75 -	135 %	**		· "	
4-Bromofluoroben			104%			120%	*		*	
Fluorobenzene (St	urr)		107%		75 -	125 %	#		ú	
SH0168-19 (GTP2-13-082709	")	Soil			Samp	led: 08/2	7/09 17:28			
Iromomethane	8260B STD Dry	ND	0.00042	0.0011	mg/Kg dry	lх	49722	09/04/09 12:30	09/04/09 18:49	
th l'oroethane	•	ND	0.00029	0.0011	н	8	a	· ·	•	
hloromethane	a	ND	0.00019	0.0011	ш	•	"		"	
ans-1,3-Dichloropropene	π	ND	0.00020	0,0011	•	ei	. •		•	
Chloroform	•	ND	0.00076	0.0011	•		•	u	, »	
thylene Dibromids		ND	0.00015	0,0011	•		n	п	U	
,2-Dichloroethane	•	ND	0.00018	0.0011	"	•		н	u	
arbon tetrachloride		ND	0.00041	0.0011		•		P		
			4 4 4 4 4 4			_				

TostAmerica Spokane

-l-2-Dichloropropane

Dichlorobromontethane

Trichloroethene

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager



0.00019

0.00019

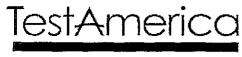
0.000087

0.0011

0.0011

0.0011

ND



Batch

Prepared

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924.9290

Analyzed

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Analyte

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number:

MDL*

073-93312-03

Report Created:

Redmond, WA 98077

Method

Result

Project Manager: Doug Morell

MRL Units

10/01/09 10:07

Notes

#### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

SSH0168-19	(GTP2-13-082709)	1	So	t)		Samp	led: 08/2	7/09 17:28			
cis-1,3-Dichlorop	ropene	8260B STD Dry	ND	0.00013	0.0011	mg/Kg diy	lx	49722	09/04/09 12:30	09/04/09 18:49	
1,1,2,2-Tetrachlor	roethane	*	ND .	0.000097	0.0022	<b>~</b>	•	ıı .	R	·	
Bromoform		н	ND	0.000079	0.0011		44	*	h	(i	
1,2,3-Trichloropro	opane	μ .	ND	0,00040	0,0011	•	н	*	и	•	
1,2-Dibromo-3-Cl	hloropropane		ND	0.00020	0.0022		••		•	D	
Hexachlorobutadi	ene	и	ND	0.00037	0.0011	•	0	•	19	n	
Surrogate(s):	: Toluene-d8 (Surr)			101%		85 -	115%	"		"	
	1,2-Dichloraethane	-d4 (Surr)		104%		75 -	125 %	•		n	
	4-Bromofluorobenzi	ene (Surr)		104%		&5 -	120 %	**		*	
SSH0168-19RE	C1 (GTP2-13-0827	101	Soi	il		Samn	led: 08/2	7/09 17:28			
1.1-Dichlaroprope		R260B STD Dry	ND	0.0025	0.055	nig/Kg dry	ls.	49928	09/09/09 (5:36	09/09/09 23:44	
1.2-Dichterobenze			ND	0.0036	0.055				ft.		
4-Chlorotoluene	- <del></del>	и	ND	0.018	0.055	н		41	,	**	
Bromomethane		a	ND	0.034	0.19	n			P	-	
Chloroethane			ND	0.032	0.55	n	9	м		и	
Dichlorodifluorom	iethane	н	ND	0.017	0.055	н	0	и			
tert-Butylbenzenc		16	ND	0.0044	0,055			18	•	,,	
1,2,4-Trimethylbo	nzene	n	ND	0.0029	0.055	в	-	<b>n</b>	•		
Chloromethane			. ND	0.083	0.55		w		•	a	
Trichtorofluorome	thane	u	ND	0.0069	0.055		,,	•	"		
1,1-Dichlaroethene	· .		ND	0.0069	0.028	•	-			ч	
sec-Butylhenzene		e	ND	0.0069	0.055	41	-				
Vinyl chloride		N	ND	0.0023	110.0	•	11	'n		**	
1,3-Dichlorobenze	ne		ND	0.0069	0.055		U	"	•	**	
2,2-Dichloropropar	ne	D	ND	0.0051	0,055		u		•	**	
Methylene Chloris	de	•	0,019	0.0052	0.055	L.	•			•	سيهبنسر
4-isopropyltoluene		D:	ND	0.0039	0.055	•	*1	n	+	"	•
cis-1,2-Dichloroeth	nene	6	ND	0.0033	0,055	Þ	**			<b>.</b>	
rans-1,2-Dichloroe	ethene	ď	ND	0.0048	0.055	*	n		•	. 11	
,1-Dichlomethane	<b>:</b>	· .	ND	0.0052	0.055	•	•	*	*	br .	
.4-Dichlorobenzer	ne	*	ND	0.0069	0.055	74	u	*	н		
Chlorobrometha	nne	•	dи	0.017	0.055	4	**		79	44	
rans-1,3-Dichlorop	огореле		ND	11.0055	0.022	0	•	4	d .	4+	
3enzene		n	ND	0.0034	0.022	•		"	•	• `	
Thlomform		n	ND	0.0029	0.055	H			*		
Ethylene Dibromide	e		ND	0.0044	0.055	· +	N		•1	и	
,1,1-Trichloroetha	ne	н	ND	0.0069	0.055		*	•	<b>e</b> r	•	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody-charmost. This analytical report must be reproduced in its unitroy.

Jarcherston 1 Randee Decker, Project Manager





SPOKANE, WA 11922 E, 1ST AVENUE 5POKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 (ax: (509) 924.929D

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: **Avery Landing** 

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	<del></del>	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-19RE	C1 (GTP2-13-082709	<u>)                                    </u>	So	il		Samp	led: 08/2	7/09 17:28			
1.2-Dichloroethar	ne e	8260B STO Dry	ND	0.0030	0.055	mg/Kg dry	ix	49928	09/09/09 15:36	09/09/09 23:44	
Carbon tetrachlori	ide	u	ND	0.0051	0.028	"			•	*	
Frichloroethene		D	0.056	0.0047	0,022	"	84	н	P	•	
I,2-Dichloropropa	ine	μ	ND	0,0054	0.017	41	*1 -	9	ė	41	
Dibromomethane		u	ND	0.0055	0.055	P	•	ı	•1	41	
Toluene		N	ND	0.0033	0.055	ь		a	••	tr.	
Dichlorobromome	:(hane	u	ND	9,0041	0.055			•			
,1,2-Trichloroeth	ane	u	ND	0.0025	0.017	ь	В	•	•	u	
is-1,3-Dichloropi	ropene	u	ND	0,0033	0.022	•	•	•	•	p p	
Chlorobenzene		D	ND	0.0032	0.055	в	•	•	IF	IF	
Fetrachloroethene		u	ND	0,0029	0.028	•	•	•		•	
.3-Dichloropropa	ine	a	ND	0.0069	0.055	"	•			n	
Ethylbenzene	•	N	ND	0.0051	0.055	N	-	4	и	a	
,1,1,2-Tetracitlore	osthane	N '	ND	0.0066	0.055	*	•		16	u	
hloradibromome	inane	w	ND	0.011	0.055	•			п	•	
,1,2,2-Tetrachlore	pethane	ti .	ND	0,0045	0.014		. •	•		•	
ı-Xylene & p-Xyl	lene	le .	ND	9.011	0.055			•	D		
-Xylene			ND	0,0032	0.055	٠,			•	•	
tyrene		и .	ND	0.0052	0.055	*	В	¥I		•	
romoform		#	ND	0,015	0.055	•		11	•		
opropylbenzene		4	ND	0.0023	0,055			,			
romobenzene		u ·	ND	0.0037	0.055			μ	"	h	
-Propylbenzene		**	ND	0.0039	0.055	u	*	п	(+	н .	
.2.3-Trichleroprop	oane	"	ND	0.016	0.055	•	•	u	•44	н	
-Chlorotoluene		b	ND	0.0074	0.055	u	•	u	•1	' sa	
3.5-Trimethylben	zene	•	ND	0.0058	0.055	۳ .		*		•	
Butylbenzene		*	ND	0.010	0.055	*	*	•	••	u	
2-Dibromo-3-Chl	огоргорапе		ND	0.091	0.28				91		
2,4-Trichlarobenz	zene	u	ND	0.0069	0.055	н	*	н	ņ	N ,	
2.3-Trich larabenz	ene	н	ND	ก.กกลง	13.055	<b>4</b> 1		4		•	
exachlorobutadies	ne	н .	ND	0.0077	0.055		b		4	•	
aphthalene		•	ND	0.0083	0.055	P	"	14	п	-	
Surrogate(s);	Toluene-d8 (Surr)	•		99%		. 85		,,	••	et	
~u raEnte(s).	Ethylbenzene-d10			105%			125 %	u		u	
	4-Bromofluorobenzene (	(Surr)	•	98%			20%	#		**	
	Fluorobenzene (Surr)	•		02%			25 %	,,			

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Batch

Prepared

Analyzed

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Method

Result

Redmond, WA 98077

Analyle

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

Notes

#### Volatile Organic Compounds (GC/MS)

MRL Units

TestAmerica Tacoma

MDL*

SSH0168-20 (GTP1-2.5-08	2709)	So	il		Samp	ied: 08/2	7/09 09:20			
Bromomethane	8260B STD Dry	ND	0,00039	0.0015	mg/Kg d₁y	lx	49722	09/04/09 12:30	09/04/09 19:13	
Chloroethane	U	ND	0.00041	0,0015	ч	μ	v	D		
Chloromethane	n	ND	0,00027	0.0015	4	٠	h	u	4	
trans-1.3-Dichloropropene	0	ИD	0.00027	0.0015	41	*	"	ų	. 4	
Chloroform	n	ND	0,00023	0.0015	**	ь	•	*	P	
Ethylene Dibromide	a	ND	0,00020	0.0015	"	0		•	"	
1,2-Dichloroethane	D)	ND	0.00025	0.0015				•	"	
Carbon tetrachloride	и	ND	0.00057	0.0015	"	•	•	*	н	
Trichloraethene		ND	0,00027	0.0015	n	D	14	D	4	
1,2-Dichloropropane	n	ND	0.00026	0.0015			16		и	
Dichlorobromomethane		ND	0.00011	0.0015	0	н	1)		и	
cis-1.3-Dichloropropene	. "	ND	0.00018	0.0015	e e	-	41		•	
1, 1, 2, 2-Tetrachloroethane	ч	ND	0.00074	0,0031	4	•	n	u	п	
Bromoform	u	ND	6.00011	0.0015	ø	*	U	4	a	
1.2.3-Trichloropropane	*	ND	0.00055	0.0015		*	u	ir	•	
1,2-Dibromo-3-Chloropropane	u	ND	0.00028	0.0031	•	*	•		o ·	
Hexachlorobutadiene	4	ND	0.00052	0.0015	N	n	•1	п	**	
Surrogate(s): Tolnene-d8 (St	ur)		130%	•	85 -	115%	#		" X. /	
1,2-Dichloraet	hane-d4 (Surr)		120%		75 -	125%	•		н	
4-Bromofluoro	benzene (Surr)		136%		85 -	120%	er .		" X. I	
SSH0168-20RE1 (GTP1-2.5-0	082709)	Soil	I		Samp	led: 08/27	7/09 09:20			
1,1-Dichloropropene	8260B STD Dry	ND	0.0066	0,15	mg/Kg dry	lx	49928	09/09/09 15:36	09/10/09 00:08	
1,2-Dichlorobenzene	41	ND	0.0096	0.15	v	•		n		
4-Chlorotoluenc	R	ND	0.048	0.15	я		14	11	14	
Bromontethane	•	ND	0.093	0.52	u		•	H	41	
Chloroethane	•	ИD	0.085	1.5	-			41	μ	
Dichlorodifluoromethane		ИD	0.030	0.15			*		•	
teri-Butylbenzene	•	ND	0.012	0.15	•	0	•		-	
1,2,4-Trimethylbenzene	ч	0.14	0.0078	0.15		U	**	. •	•	J
Chloromethane		ND	0.22	1,5	•	h	n		N	
Trichlorofluoromethane	•1	ND	0.018	0.15	n	н		*	•	
t,1-Dichloroethene	**	ND	0.018	0.074		•1			*	
sec-Bulylbenzenc	•	ND	0.018	0,15	4		n	•	•	
Vinyl chloride	•	ND	0.0063	0.030	•	ěi.	*1			
1,3-Dichlorobenzene	•	מא	0.018	0.15	0	**	N	tt.	, o	
2,2-Dichloropropane		ND	0.014	0.15	<u> </u>	*1				
Methylene Chloride	**	0.054	4.014	U,15 U	-		*	•	•	سنلسلنس

TesiAmerica Spokane

The results in this report apply to the samples analyzed in occurdance with the chain of custody document. This analytical report most be reproduced in its entirety.





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-20RE1 (GTP1-2.5-08	32709)	Soi	il		Samı	pled: 08/2	7/09 09:20			
4-Isopropyltoluene	8260B STD Dry	0.043	0.010	0.15	mg/Kg dry	lx	49928	09/09/09 15:36	09/10/09 00:08	
cis-1,2-Dichloroethene	щ	ND	0.0089	0.15	**	"	u	h	4	
trans-1,2-Dichloroethene	ju	ND	0.013	0.15	•	н	u	u	4	
1,1-Dichloroethane	u u	ND	0.014	0.15	•	*	a.		41	
1.4-Dichlorobenzene	•	ND	0.018	0.15				4	1	
Chlorobromomethane	₹1	ND	0.044	0.15	**	п	ď	. "	*1	
trans-1,3-Dichtoropropene	PI	ND	0.015	0.059	11	ú	4	u	**	
Benzenc	'n	0.044	0,0092	0.059	ď	a		æ		
Chloroform	II.	ND	0.0078	0.15	"	u	4	n	•	
Ethylene Dibromide	"	ND	0.012	0.15	"	"	u	. 4	n	
1,1,1-Trichlorpethane	n	ND	0.018	0.15	p		4	п	, **	•
1,2-Dichloroethane	n	ND	0,0081	0.15		v	"	н		
Carbon tetrachloride	II	ND	0,014	0.074				•		
Trichloroethene	<b>n</b> :	ND	0.013	0.059	4		* ,			
1,2-Dichloropropane	•	ND	0.014	0.044	• .	-	•			
Dibromomethane	₩	ND	0.015	0.15	**	-	•	-	fr.	
Toluene	ū	0.40	0.0089	0.15	0	*	"			
Dichlorobromomethane		ND	0.011	0.15	•	н	•	•		
1,1,2-Trichloroethane	n	ND	0,0066	0.044		•	•	a		
cis-1,3-Dichloropropene	Ħ	ND	0.0089	0.059	11	u	•	u	•	
Chlorobenzene		ND	0.0085	0.15	b	. "	•		79	
Tetrachloroethene	đ	ND	0.0078	0.074		18	•	•	•	
1,3-Dichloropropane	n	ND	0.018	0.15		*		•		
Ethylbenzene	<b>»</b>	0.14	0.014	0.15	b	,		•1		
1,1,1,2-Terrachloroethane	u	ND	0.018	0.15	"			-		
Chlorodibromomethane	μ	ND	0.030	0.15	**	b	•	4	U	
1,1,2,2-Tetrachloroethane	u	ND	0.012	0.037		ų	*	-	-	
m-Xylene & p-Xylene		0.41	0.029	0.15	n	n	•	н	4	
o-Xylene	<b>N</b>	0.17	0.0085	0.15		"	*	н	•	
Siyrene	•	ND .	0.014	0,15	v	-19	•	•	u	
Bromoform	N	ND	0.047	0,15	41	•		#	н	
Isopropylbenzene	н	ND	0.0066	0.15		р -		#	а	
Bromobenzene		, ND	0.010	0.15	. •	ь	•	ь.	u	
N-Propylbenzens	u	0.031	0.010	0.15	•	"	•	•1	*	1
1,2,3-Trichloropropane	•	ND	0.043	6.15	u	19	•	•	*	
2-Chlorotoluene	н	ND	0.020	0.15	11	D	•			
1,3,5-Trimethylbenzene	ų	0.048	0.016	0.15	•	ь	•	μ	*	1
n-Butylbenzene		ND	0,027	0.15		,,				· · · · · · · · · · · · · · · · · · ·
1,2-Dibromo-3-Chloropropane	0	ND	0.24	0.74	4		*		•	

TestAmerica Spokane

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dit	Batch	Prepared	Analyzed	Notes
SSH0168-20RE	I (GTP1-2.5-082709	)	S	oil		Samp	led: 08/	27/09 09:20			
1,2,4-Trickloroben	zene	п	ИD	0.018	0.15	н	н		ж		
1.2,3-Trichloroben	zene	u	ND	0.018	0,15	n	Ħ	II	u		
Hexachlorobutadie	ene		ND	0.021	0.15	4	н		•	H	
Naphthalene			ND	0.023	0.15			"	. "		
Surrogate(s):	Toluene-d8 (Surr)	•	•	101%		85 -	115%	,,			
	Ethylbenzene-d10			108%			125 %	. "			
	4-Bramofluorobenzene	(Surr)		98%		85 -	120 %	"		**	
	Fluorobenzene (Surr)			102%		75 -	125 %	o		H	
SSH0168-21	(GTP5-11-082809)		Sc	oil		Samp	led: 08/.	28/09 09:37			
Bromomethane		8260B STD Dry	סא	U.00042	0,0011	mg/Kg dry	lx	49722	09/04/09 12:30	09/04/09 19:37	
Chloroethane		n	ND	0.00030	1100.0	n	и	14	•	**	
Chloromethane		6	ND	0.00019	0.0011	P	•1	н,	2)	•	
trans-1,3-Dichlorop	ropene .	. al	ND	0.00020	0.0011	ji.	•	u	н	п	
Chloroform			ND	0.00016	0.0011	•	ч	*	•	•	
Ethylene Dibromid	e		ND	0.00013	0.0011	•	•	•	•		
1,2-Dichloroethane		**	ND	0.00018	1100.0	*1			•		
Carbon tetrachlorid	e	ıı	ND	0.00041	0.0011	11		•		-	
Trichlorocthene		•	0.00041	0.00019	0.0011	•		D	4	h	3
1,2-Dichloropropan	e .		ND	0.00019	0.0011					и	
Dichlorobromometh	nane		ND	0.000082	0.0011		н	•	10		
cis-1,3-Dichloropro	pene	•	ND	0.00013	0.0011	u	H	v	•	и	
1.1,2,2-Tetrachloroe	ethane	U	ND	0.000097	0.0022	W	A	•		<b>#</b> t	
Bromoform			ND	0.000079	0.0011		•		•	-	
1,2,3-Trichloroprop	ane .	14	ND	0.00040	0.0011	**	•			7	
1,2-Dibramo-3-Chlo	oropropane		ND	0.40020	0.0022	•	*	•	•	•	
Hexachlorobutadien	e	n	ND	0.00037	0.0011	н	в			М	
Surrogate(s):	Toluene-d8 (Surr)	***		104%		85 -	115%	"			·· ··, -
	1,2-Dichloroethune-d4 (	Sur)		105%			125 %	a		u	
	4-Bromofluorobenzene (	Surr)		109%		85 -	120 %	u		tt	

TestAmerica Spokane

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Caral Sim Randee Decker, Project Manager





11922 E. 15T AVENUE

SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number: **Avery Landing** 

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager: Doug Morell 10/01/09 10:07

#### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-21REI (GTP5-11-	082809)	Soi	1	Sam	pled: 08/2	8/09 09:37			
1,1-Dichloropropene	8260B STD Dry	ND	0,0024	0.053 mg/Kg dry	İx	49928	09/09/09 15:36	09/10/09 00:32	
1,2-Dichlorabenzene	•	ND	0.0034	0.053 "	n	ú	*	в	
4-Chlorotoluene		ND	11.017	0.053 °	н	*	4)	II	
Bromomethane	ú	ND	0.033	0.18 "	u	H	b	u	
Chloroethane	ч	ND	0.030	D.53 "	44	16		*	
Dichlorodi Nuoromethane	u.	ND	0.011	0,053 *	и	a	"	si.	
tert-Butylbenzene	ч	ND	0.0042	0.053 *			<b>P</b> 1	Þ	
1.2,4-Trimethylbenzene	W	ND	0.0028	0.053		-	41	ч	
Chloromethane	4	ND	0.079	0.53 "	"	•		4	
Trichlorofluoromethane	N	ND	0.0066	0,053 "		μ	н	#	
l, 1-Dichloroethene	n	ND	0,0066	0.026 *	•	n	н		
sec-Butylbenzene	ü	ND	0.0066	0,053	n	*1	pa	н	
Vinyl chioride	н	ND	0.0022	0.011 "				"	
1.3-Dichlorobenzene	<b>N</b>	ND	0.0066	0,053 "	ji .		4	ja	
2,2-Dichloropropane	*	ND	0.0049	0.053 *	14		*	1)	
Methylene Chloride	(t	9.061	0.0050	٠ 🏒 3,053		4		п	اسر
4-lsopropyltoluene	•i	ND	0.0037	0.053	11	*	-	ú	
cis-1,2-Dichloroethene	•	ND	0.8032	0,053 "		19	D	•	
trans-1,2-Dichloroethene	41	ND	0.0046	0.053 "	"	•		•	
1,1-Dichloroethane	0	ND	0.0050	0,053	•1	•	п.	w	
1,4-Dichlorobenzene	μ	ND .	0,0066	0.053 "	ìr		**	-	
Chlorobromomethane	•	ND	0.016	0,053 *			H	•	
trans-1,3-Dichloropropene	•	ND	0.0053	0.021 "	н	٠.	*	*	
Benzene	4	ND	0.0033	0.021 *	и	4	*	u u	•
Chloroform	4	ND	0.0028	0,053 "	D	*	*	ď	
Ethylene Dibromide	Pt .	ND	0.0042	0.053 "			μ		
1,1,1-Trichloroethane	•	ND	0.0066	0.053 "	*		11	•	
1,2-Dichloroethane		ND	0.0029	0.053 "	*	•		в	
Carbon tetrachloride	u	ND	0.0049	0.026 "	-	•	•	v	
Prichloroethene	<b>H</b>	0.036	0.0045	0.021 "	**	•	и	ıı	
1,2-Dichloropropane	u	ND	0.0051	0.016 "	**	•	н	. "	
Dibromomethane	ø	ND	0.0053	0.053 "	μ	•	H		
Toluene	•	ND	0.0032	0.053 "	•			1,	
Dichlorobromomethane	•	ND	0.0039	0.053	**	4	•	"	
1,1.2-Trichloroethane		ND	0.0024	0.016 *	P	-	•	h	
cis-1,3-Dichloropropene	H	ND	0.0032	0.021 "	r.		•	ri	
Chlorobenzene	1	ND	0.0030	0.053 "	**	n .	II	•	
Tetrachloroethene		ND	0.0028	0.026 "	<u> </u>				

1	est.	An	eci	Ca	Sor	skan-	e

The results in this report apply to the samples analyzed in accordance with the chain of custudy document. This analytical report must be reproduced in its entirey.





THE SEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Project Name:

Project Number:

Avery Landing 073-93312-03

Project Manager:

Doug Morell

Report Created:

10/01/09 10:07

## Volatile Organic Compounds (GC/MS)

			TestAm	erica Ta	coma	<u> </u>				
Analyte	Method	Result	MDL*	MRL	. Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-21REI (GTP5-11-082	809)	S	oil		Sam	pled: 08/	28/09 09:37			
1,3-Dichloropropane	8260B STD Dry	ND	0.0066	0.053	mg/Kg dry	1x	49928	09/09/09 15:36	09/10/09 00:32	
Ethylbenzene	4	ND	0.0049	0.053	*		**	d	•	
1,1,1,2-Tetrachloroethane	41	ND	0,0063	0.053	ą	Ħ	. "	#	11	
Chlorodibromomethane	17	ND	0.011	0.053	0	-	и ,	н	U	
1,1,2,2-Tetrachloroethane		ND	0.0043	0,013	4	•	"	el		
n-Xylene & p-Xylene	P	ND	0.010	0,053		n	•		•	
-Xytene	n	ND	0,0030	0.053	u	h	4		н	
Styrene	ú	ND	0,0050	0.053	"	•	•	•	i.e.	
Bromoform	· ·	ND	0.014	0.053	4	9	н	п	19	
sopropylbenzene	,	ND	0.0024	0,053	•	0	*	u		
Bromobenzene	0	ND	0,0036	0.053	*	•	•		4	
V-Propylbenzene	ii.	ND	0,0037	0.053	Þ		•	•	ø	
.2,3-Trichloropropane	a	ND	0.015	0.053	p	•	P	<b>#</b> I	n	
-Chlorotoluene	u	ND	0.0071	0.053	-	41	p	ėį	*5	
,3.5-Trimethylbenzene	ч	ИD	0.0055	0.053	11	۳		II		
-Butylbenzene		ND	0.0096	0.053		-	it		*	
.2-Dibromo-3-Chloropropane		ND	0.087	0.26	0	•	a	H	**	
.2.4-Trichlorobenzene	ii .	ND	0,0066	0,053		ы	*	u		
,2,3-Trichlorobenzene	u	ND	0.0066	0.053			*	U	п	
lexachlorobutadiene		ND	0.0074	0.053			•			
laphthalene	a a	ND	0.0079	0.053	•	"		п	N	
Surrogate(s): Toluene-48 (Surr)			95%		85	- 115%			e	
Ethylbenzene-d10	¥		108%		75 ·	125 %	u		**	
4-Bromoftvorobenz	ene (Surr)		100%		<i>85</i> -	- 120 %	H		, и	
Trifluorotolnene (S.			89%			125 %	n		#	
Fluorobenzene (Sur	T)		103%		75 -	125%	u			
SH0168-22 (TS-COMP-1)		So	ii l		Samp	led: 08/7	27/09 18:10			
romomethane	8260B STD Dry	ND	0.00016	0.00042	ıng/Kg dry	į,	49722	09/04/09 12:30	09/04/09 20:00	
hloroethane	•	ND	0.00011	0,00042	н	•	•	*1	•	
hioromethane	,	ND	0.000075	0.00042	*	*	n .	41	н	
urs-1_3-Dichloropropene	n	ND	0.000075	0.00042	H	•		n		
iloroform	n	ND	0.000063	0.00042	*	b		às .	•	
hylene Dibromide	P	ND	0.000056	0.00042	4)		n	**	*	
2-Dichloroethane	n	ND	0.000068	0.00042	10	4	n		10	
arbon tetrachioride		ND	0.00016	0,00042	"	"	ıı	-		
richloraethene		ND	0.000075	0.00042	"	"	и	-		
2-Dichloropropane		ND	0.000072	0.00042	"			, h		

TestAmerica Spokane

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Method

Result

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Analyte

Project Name:

MDL*

Avery Landing

Dil

Batch

Prepared

Analyzed

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: . 10/01/09 10:07

Notes

# Volatile Organic Compounds (GC/MS)

MRL

TestAmerica Tacoma

SSH0168-22 (TS-COMP-1)		So	il		Samp	led: 08/2	7/09 18:10				
Dichlorobroniomethane	8260B STD Dry	ND	0.000031	0.00042	mg/Kg dry	lx	49722	09/04/09 12:30	09/04/09 20:00		
cis-1,3-Dichloropropene	•	ND	0,000050	0.00042		"		br .	-		
1,1,2,2-Tetrachloroethane	•	ND	0,000037	0.00085	•		N	4	44		
Bromeform	*	ND	0,009030	0.00042	••	D	R		В		
1,2,3-Trichloropropane	4	ND	0.00015	0.00042	H	b	•1	•	II.		
1,2-Dibromo-3-Chloropropane		ND	0.000077	0.00085	to	,,	*		»		
1-lexachlorobutadiene	•	ND	0,00014	0.00042	**	n	**	•	+1		
Surrogate(s): Toluene-d8 (Surr	r)		/06%		85 -	115%			Ħ		, ,
1,2-Dichloroetho	•		131%			125 %	,,			X. 1	
4-Bromofluorobe	enzene (Surr)		108%		85 -	120%	"		*		
SSH0168-22REI (TS-COMP-1	)	So	il .		Samp	led: 08/2	7/09 18:10				
1, 1-Dichloropropene	8260B STD Dry	ND	0.0027	0.060	mg/Kg dry	lx	49942	09/09/09 17:34	09/10/09 08:57		
1,2-Dicklorobenzene	n	0.037	0.0039	0.060	u			•	٠.		
4-Chlorotoluene	,	ND	0.020	0,060	4	n	•	4	H		
Bromomethane	•	ND	0.038	0.21	-	**	•	*			
Chloroethane	tr	ND	0.035	0,60		**	**	•			
Dichlorodifluoromethane	lt	ND	0.072	0.060	•	4	v	•			
ert-Butylbenzene	. •	0.020	0.0048	0.060	•	w	н	n	n		
1,2,4-Trimethylbenzene	0	0.048	0.0032	0.060	*	**			*		
Chlaromethane	i•	ND	0.090	0.60	*	W			•		
Frichlorofluoromethane	ie .	ND	0,0075	0.060	D	и	•	•	•		
I.I-Dichforoethene	*	ND	0,0075	0.030	h	*		ч	•		
sec-Butylbenzene	н	0.28	0.0075	0.060	н	H.	•t	•	ь		
Vinyl chloride	*	ND	0.0026	0.012	•	•	٠.	н			
1,3-Dichtorobenzene	•	ND	0.0075	0.060				*	**		
2,2-Dichloropropane	•	ND	0.0056	0,060		"		•	•		
dethylene Chloride	" Stat	189	0,0057	0.060		16-10-6	nQ "	p.	**		
-lsopropyltoluene	,	0.094	0.0042	0,060		1. 70 (	· "	, e	**		
is-1,2-Dichloroethene	u	ND	0.0036	0.060	. "	-			•		
rans-1,2-Dichioroethene	"	ND	0.0053	0.060		-		. ,	•		
, I-Dichloroethane	n	ND	0.0057	0.060	N				•		
,4-Dichlorobenzene		ND	0.0075	0.060	*1		al	n	Р		
lhlorobromomethane	16	ND	0.018	0.060	4	en		M	ú		
ans-1,3-Dichtoropropene	•	ND	0.0060	0.024	1	. *		•			
enzene	*	ND	0,0038	0.024	H	•4	•	•	•		
Chloroform	u	ND	0.0032	0.060	н	•	•	•	*		
Ethylene Dibromide	ч	ND	0,0048	0.060	*			H			

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

#### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-22RI	EI (TS-COMP-I)		So	il		Samp	led: 08/.	27/09 18:10			
1,1,1-Trichloroet	nane	8260B STD Dry	ND	0.0075	0,060	mg/Kg dry	ix	49942	09/09/09 17:34	09/10/09 08:57	
1,2-Dichloroetha	ne	а	ND	0.0033	0.060	."	4	"	•		
Carbon tetrachlor	ide	u	ND	0.0056	0.030	u	-	H		4	
Trichloroethene		"	ND	0.005 (	0.024	b	~	4	•		
1,2-Dichloropropa	ine		ND	0,0059	0.018	**	-	-	•	#	
Dibromomethane			ND	0.0060	0.050	•	-	•		<b>H</b>	
Toluene		10	0.0096	0.0036	0.060	*	•		*	•	r
Dichlorobromome	thane	p.	ND	0.0045	0.060	ıl .	•	n	•	n	
1.1.2-Trichloroeth	ane	н	ND	0.0027	0.018					н	
cis-1,3-Dichlorop	ropene	n	ND	0.0036	0.024	"	P	н	•	u	
Chlorobenzene		0	מא	0.0035	0.060	н	w	•	*		
Tetrachloroethene		n	ND	0.0032	0.030	H			• `	И	
1,3-Dichloropropa	ine	n .	ND	0.0075	0.060	4		*	b	i•	
Ethylbenzene		16	0.070	0.0056	0,000		u	н		et e	
1,1,1,2-Tetrachlor	pethane	v	ND	0.0072	0,060	*		•	¥	ч	
Chlorodibromonte	Lhane	16	ND	0.012	0.060	<b>h</b>	11		**	н	
1,1,2,2-Tetrachlor	oethane	46	ND	0,0050	0.015	n	ц	n	а	u	
m-Xylene & p-Xy	lene	ul.	0.014	0.012	0.060	M	ı	ii .		u	J
o-Xylene		п	ND	0.0035	0.060	•		n	4	μ	•
Styrene		"	מא	0.0057	0.060	U	T	"	н	ď	
Bromoform		"	ND	0.077	0.060	٠.	**	10		41	
Isopropylbenzene			0.16	0.0027	0.060	a ,	. "	je	-	•	
Bromobenzene		, Р	ND	0.0041	0.069			-	"	, .	
N-Propylbenzene		in .	0.33	0.0042	0.060	В			•	и	
1,2,3-Trichloropro	pane	h .	ND	0.017	0.060		te	"	*	*	
2-Chlorotoluene			ND	0.0081	0.060	#		n	•1	×	
1,3,5-Trimethylber	nzene	"	ND	0.0063	0.060	•	*	b	**	•	
n-Butylbenzene		-	0.71	0.011	0.060	*			9	H	
1,2-Dibrame-3-Ch	loropropane	и	ND	0,099	0.30	¥	*	н		н	
1,2,4-Trichloroben	zene		ND	0.0075	0.060	•	ш	н	**	•	
1,2,3-Trichloroben	zene	•	ND	0.0075	0.060	•		11	•	4	
Hexachlorobutadie	ne		ND	0.0084	0.060	•	"	и	11	•	
Naphthalene		ar .	1.9	0.0090	0.060	4	,,	u ,	•	0	
Surrogate(s):	Tolnene-d8 (Surr)			98%		85 -	115%			 	
	Ethylbenzene-d10			104%			125 %	•		n	
	4-Bromofluorobenzene	(Surr)		100%			120%		•		
	Fluorobenzene (Surr)			106%		75 -	125 %			•	

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA 11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd, Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/01/09 10:07

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-23 (TS-COMP-2)	Soil			Sampled: 08/27/09 18:28						
Bromomethane	8260H STU Dry	ND	0,000093	0.00024	mg/Kg dry	lx	49722	09/04/09 (2:30	09/04/09 20:24	
Chloroethane	ri.	ND	0.000065	0.00024	•	*	4		И	
Chioromethane	•1	ND	0.000043	0.00024	4	μ	A	u	je.	
trans-1,3-Dichloropropene	4	ND	0.000043	0.00024	•	•	•	"	и	
Chloroform	41	ND	0.000036	0.00024	*	-	*1	•1		
Ethylene Dibromide	**	ND	0.000032	0.00024	•1	•	n	•1	•	
1,2-Dichloroethane	ii .	ND	0,000039	0,00024	a)	×	н	a	#	
Carbon tetrachloride	<b>II</b>	ИD	0,000090	0.00024	n		le	11	n	
Trichloroethene	a	ND	0.000043	0.00024	,,	"	*	II.	v	
1,2-Dichloropropane	ď	ND	0.000041	0.00024		. "	4		4	
Dichlorobromomethane		ND	0.000018	0.00024	•		•	7	**	
cis-1,3-Dichloropropene	la .	ND	0,000028	0.00024		u	`,	4	ч	
1,1,2,2-Tetrachloroethane	•	ND	0.000021	0.00048	11	•	ħ	•1	и	
Bromoform	. •	ND	0,000017	0.00024	*	**	•	п	1-	
1.2,3-Trichloropropane		ND	0,000087	0.00024	44	47	4		-	
1,2-Dibromo-3-Chloropropane	р	ND	0.000044	0.00048	al		4	10	**	
Hexachlorobutadiene	n	ND	0,000081	0.00024	18		4	0	**	
Surrogate(s): Toluene-d8 (Surr			 113%		95	115%	 л			•
Surrogate(s): Toluene-d8 (Surr 1,2-Dichtoroetha			112%			125 %	If		n	
4-Bromofluorobe			138%			120 %	R		" X	1
•	,								2	•
SSH0168-23RE1 (TS-COMP-2	<u> </u>	Soil			Sampled: 08/27/09 18:28			····		
1.1-Dichloropropene	8260B STD Dry	ND	0.0014	0.030	mg/Kg dry	lx	49942	09/09/09 17:34	09/10/09 09:21	
1,2-Dichlorobenzene	•	0.037	0.0020	0.030	н	v	u	19	•1	
4-Chlorotoluene	jı.	ND	6,0098	0.030	*	u	•	14	h	
Bromomethane	и	ND	9.079	0.11			41	u	h	
Chioroethane	u	ND	0.017	0.30	n		"			
Dichlorodifluoromethane	4	ND	0.0061	0.030	ii	•		H	*	
tert-Butylbenzene		0.014	0.0024	0.030	• "	ai	*	H	*	
1,2,4-Trimethylbenzene	ii	0.13	0,0016	0.030	n	11	•	л	•	•
Chloromethane	21	ND	0.045	0,30	*	"	•	e e		
Trichiorofluoromethane	,	ND	0.0038	0.030	•	4	•			
1,1-Dichloroethene	н	ND	0.0038	0.015		•	"	N	4	
sec-Butylbenzene	•	0.12	0,0038	0.030	H		14	N)	*	
Vinyl chloride	*	ND	0.0013	0.0061	u	•	h	n	•	
1,3-Dichlorobenzene	•	ND	0.0038	0.030	*		ч	D	*	
2,2-Dichloropropane		<u>ND_</u>	0.0028	0.030	н			μ	•	
Viethylene Chloride	н	0.066	0.0029	0.036	li .	и	и .		•	

TesiAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: 073-93
Project Manager: Doug

073-93312-03 Doug Morell Report Created: 10/01/09 10:07

# Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-23RE1 (TS-COMP-2)		Soi	Soil Sampled: 08/27/09 18:28							•
4-Isopropyltoluene	8260B STD Dry	0.064	11,0021	0.030	mg/Kg dry	lx	49942	09/09/09 17:34	09/10/09 09:21	-
cis-1,2-Dichloroethene		ND	- 0.0018	0.030		•	ď			
trans-1,2-Dichloroethene	•	ND	0.0027	0.030	4		a	ь	*	
I, I-Dichloroethane	•	ND	0.0029	0.030	"	a	*	4		
1.4-Dichlorobenzene	н	ND	0,0038	0,030	•	"	*	a	*	
Chlorobromomethane	и	ND	0.0091	0.030	*	4	4		•	
trans-1.3-Dichloropropene	ч	ND	0.0030	0.012	и	u	•	н		
Benzene	н	ND	0.0019	0.012	п	u	4		<b>b</b>	
Chloroform	" ,	ND	0.0016	0.030	р	41	ı	"	н.	
Ethylene Dibromide	ø	ND	0.0024	0.030		н	li .	"	•	
1,1,1-Trichloroethane	ø	ND	0.0038	0.030		ĸ	•	18	41	
1,2-Dichloroethane	4	מא	0,0017	0.030		u	•	*1	¥	
Carbon tetrachloride		ND	0,0028	0.015	•		*	•	n	
Trichloroethene	4	ND	0.0026	0.012	ı	•	,	**		
1,2-Dichloropropane		ND	0.0030	0.0091	,	••	•	47	4	
Dibromomethane	41	ND	0.0030	0,030	h	0	u	*	u	
Toluene	•	0.0053	0.0018	0.030		. "	4	4	b .	J
Dichlorobromomethane	h	ND	0.0023	0.030	·		•	v	II.	
1,1,2-Trichloroethane		ND	0.0014	0.0091		**	v		•	
cis-1,3-Dichloropropene	•1	ND	0.0018	0.012		*	•	4	4	•
Chlorobenzene	•	ND	0.0017	0.030				**	4	
Tetrachloroethene		ND	0.0016	0.015	a	•	u	h	и	
1,3-Dichloropropane	•	ND	0.0038	0.030	4	*	•		н	•
Ethylbenzene		0.044	0.0028	0.030	•	•	•	•	u	
1.1.1.2-Tetrachloroethane	•	. ND	0,0036	0.030	•		•	u	"	
Chlorodibromomethane	ęi	ND	0.0061	0.030	*		H	p.	"	
1,1,2,2-Tetrachloroethane	ė.	ND	0,0025	0.0076	•	"	и	u	u	
m-Xylene & p-Xylene	b	0.017	0.0059	0.030	D		u	•	u	J.
o-Xylene	w)	0.020	0.0017	0.030		*	"	•		J
Styrene	и	ND	0.0029	0.030	h	и	. "			
Bromeform	•	ND	0,0083	0.030	"		4	н	и	
Isopropythenzene	*	0.082	0.0014	0.030	•		H		P	
Bromobenzene	*	ND	0.0020	0.030	а	10	*1		"	
N-Propylbenzene		0.14	0,0021	0.030	•	•	41	•	N	
1.2.3-Trichloropropane	D	ND	0,0088	0.030	•	"	•	*	n	
2-Chlorosoluene	D	ND	0,0041	0.030	•	4	••	*	Ħ	
1,3,5-Trimethylbenzene	·	0,0075	0.0032	0.030	D		v	41	н	J
n-Butylbenzene	л	ND	0.0055	0.030	*		6	1)		
1.2-Dibromo-3-Chloropropane	н	ND	0.050	0.15	Ħ	n	•	••	n n	

TestAmerica Spokane

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Project Name:

Avery Landing .

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/01/09 10:07

10/01/

## Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-23RE1 (TS-COM	P-2)	Soil Sampled: 08/27/09 18:28								
1,2,4-Trichlorobenzene	п	ND	0.0038	0.000	(1	b	"	d	4	
1,2,3-Trichlorobenzene		ПN	0,003א	0.030	4	H	ú	"	4)	
Hexachlorobutadiene		ND	0,0042	0.030	4	**	*	-	p.	
Naphthalone	ŋ	2.0	0.0045	0.030			•		1)	
Surrogate(s); Toluene-d8 (.	Surr)		101%		<i>85</i> -	- 115%	"		н	•
Ethylbenzene		•	104%			- 125 %	•		er .	-
4-Вготоflиоговенгене (Ѕнгг)			102%		85 -	- 120 %	•		н	
Fluorobenzer	ne (Surr)		102%		<i>75</i> -	- 125%	n			
SSH0168-24 (TS-COMP-3	3)	Soil			Samp	led: 08/	27/09 16:40			
Bromomediane	8260B STD Dry	МĎ	0,00921	0.00054	mg/Kg dry	ls	497 <u>22</u>	09/04/09 12:30	09/04/09 20:48	
Chloroethane	•	ND	0,00014	0,00054	•	u		*	₹	
Chloromethane	11	ND	0.000095	0.00054	•	u	4	•		
trans-1,3-Dichloropropene	•	. ND	0.000096	0.00054	N	•	•	41	•	
Chloroform	<b>a</b> l	ND	0.000000	0.00054	•	u	**	u .	*	
Ethylene Dibromide	Ħ	ND	0.00007/	0.00054	n	п		4	, <b>#</b>	
1,2-Dichleroethane		ND	0.000086	0.00054	٠,		•	•	H	
Carbon tetrachloride	*	ND	0.00020	0.00054	•		•	4	•	
Trichloroethene		ND	0.000095	0.00054	•	н,	•		•	
1,2-Dichloropropane	•	ND	0.000092	0.00054	91	*		u	н	
Dichlorobromomethane	•	ND	0.000040	0.00054	*	•		μ	0	
cis-1,3-Dichloropropene	•	ND.	0.000063	0.00054	**	•	"	F	u	
1, 1,2,2-Tetrachioroethane	•	ND	0.000047	0.0011	•	4	"	19	•	
Bromoform	•	ND	0.000039	0.00054		41	н	*	•	
1,2,3-Trichloropropane		ND	0.00019	0.00054	h	**	"	u	*	
1,2-Dibromo-3-Chloropropane	W	ND	0.000098	0.0011	н			u	м	
Hexachlorobutadiene	•	ND	0.00018	0.00054	4	4	at .		₩.	
Surrogate(s): Toluene-d8 (S	· · ·		110%		ge.	115%	 u			-
•	urr) thane-d4 (Surr)		129%		-	125 %	u		" x.	,
	obenzene (Sunt)		102%			120 %	u		и Х.	. •

TestAmerica Spokano

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SPOKANE, WA

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Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager: Doug Morell Report Created:

10/01/09 10:07

## Volatile Organic Compounds (GC/MS)

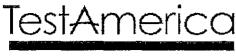
TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-24RE1 (TS-COMP-3)		Sai	:1		Samp	led: 08/2	7/09 16:40			
1,1-Dichtoropropene	8260B STD Dry	ND	0.0019	0.041	mg/Kg dry	ix	49942	09/09/09 17:34	09/10/09 09:45	
1,2-Dichlorobenzene	•	0.015	0.0027	0.041	•			n	44	
4-Chlorotoluene	•	ND	0,013	0.041	n	«	н	•	n	
Bromomethane	•	ND	0.026	0.14	P	*	4	•	ų	
Chloroethane	×	ND	0.024	0.41	u	-	•	•		
Dichlorodifluoromethane	•	ND	0,0083	0,041	u	~	•		N,	
tert-Butylbenzene	u	0.015	0.0033	0.041	,,		-	*		
1,2,4-Trimethylbenzene	10-	ND	0,0022	0.041	-	•	•		*	
Chloromethane		ND	0.062	0.41	H				*	
Trichlorofluoromethane		ND	0.0052	0,041	×	-	n	u	*	
I,1-Dichloroethene	16	ND	0.0052	0,021	•			"	*	
sec-Butylbenzene	"	0.29	0.0052	0.041	n	-	"	*	*	
Vinyl chloride	•	ND	0.0018	0.0083	*	-		•	ń	
1,3-Dichlorobenzens	н	ND	0.0052	0.041	11		a		n	
2,2-Dichlaropropane	R	ND	0.0038	0.041		н	ij	ij	ų	
Methylene Chloride		ND	0.0039	0,041	٠	-	u	Р	u .	
4-Isopropyltoluene		0.814	0.0029	0.041	u	*	(1	•	ı)	
cis-1,2-Dichloroethene	u	ND	0.0025	0.041	*	-			lı .	
trans-1,2-Dichioroethene	u	ND	0.0036	0.041	•	-	4		u ·	
1,1-Dichloroethane	a	ND	0,0039	0.041			N	*	٦	
1,4-Dichlorobenzene	e e	0.0064	0.0052	0.041	•	•	٠.	•	44	
Chloro bromomethane	tt	ND	0.012	0.041	m,	•	ji	•	H	
trans-1,3-Dichleropropene	4	ND	0.0041	0.017	"	•		-	*	
Benzene	u	ND	0.0026	0.017	ıı	•		•	*	
Chloroform	"	ND	0.0022	0.041	H	u	. "	•	ч	
Ethylene Dibromide	16	ND	0.0033	0.041	N		4	u	ú	
1,1,1-Trichloroethane	40	ND	0.0052	0.041	-	n	4		n	
1,2-Dichloroethane	Įi.	ND	0.0023	0.041	•	"		P	u	
Carbon tetrachloride	įi.	ND	0,0038	0,021	*	u		•		
Trichloroethene	(i	ND	0,0035	0.017	•	11	H		п	
1,2-Dichloropropane	ri	ND	0.0040	0.012	•	e e	4	ч	a	
Dibromomethane	ď	ND	0.0041	0.041	N	a	•	*	ø	
Toluene	" "	ND	0.0025	0.041	•	"	•	*	"	
Dichlorobromomethane	u	ND	0.0037	0.041		•		*	41	
1,1,2-Trich oroethane	u	ND	0.0079	0.012	D	4	и	4	н	
cis-1,3-Dichloropropene	a	ND	0.0025	0.017	P		я	e .	N	
Chlorobenzene	u	ND	0.0024	0.041			4		•	
Tetrachloroethene	н	ND	0,0022	0.021						

TestAmerica Spokane

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SPOKANE, WA

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: 0'
Project Manager: D

073-93312-03

Doug Morell

Report Created: 10/01/09 10:07

## Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

	=	<del></del>	TestAme	erica la	coma				<u> </u>	
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-24RE1 (TS-COMP-3)		So	it		Samp	led: 08/2	27/09 16:40			- <del></del>
1,3-Dichioropropane	8260B STO Dry	ND	0.0052	0.041	mg/Kg dry	lx	49942	09/09/09 17:34	09/10/09 09:45	
Ethylbenzene	*	ND	0,0038	0.041	. •	u	n	ч	1)	
1.1.1.2-Tetrachloroethane	*	ND	0,0050	0.041	*	H		•	n	
Chlorodibromomethane	×	ND	0.0083	0.041	*	IP	ii.	ď	a	
1, 1, 2, 2-Tetrachloroethane	*	ND	0.0034	0.010	Þ	IP	а	(1	a	
m-Xylene & p-Xylene	4	0.010	0.00N1	0.04 l	4	•	•	В	ø	
o-Xylene		ND	0.0024	0.04		•	ie		· ·	
Styrene	-	ND	0.0039	0.04 l	P	•	•	•	•	
Bromoform	•	ND	0.011	0.041	"		•	-	5 <b>4</b>	
IsopropyIbenzene		0.069	0.0019	0.041	**	P	*	•	Þ	
Bromobenzene	•	ND	0.0028	0,041		Ü	n	μ	h	
N-Propylbenzene	•	0.11	0.0029	0.041		u '		**		
1,2,3-Trichloropropane		ND	0.012	0.041	•	*	•	н	**	
2-Chilorotoluene	•	ND	0.0056	0.041	*	n	•	-	**	
1.3.5-Trimethylbenzene	je	ND	0.0043	0.041	ж		•	•	н	
a-Butylbenzene	n.	0.61	0.0075	0.041	H	**	1	н	*	
1,2-Dibromo-3-Chloropropane	40	ND	0.068	0.21	,	-		. в	M	
1,2,4-Trichtorobenzene	44	ND	0,0052	0.041	»		et .		•	
1,2,3-Trichlorobenzene	ie .	ND	0.0052	0.041				•		
Hexachlorobutadiene	ir	ND	0,0058	0.041	0			u	и .	
Naplitimlene	•	0.37	0.0062	0.041	в.	н		•	4	
Surrogate(s): Toluene-d8 (Surr)		•	103%	•	85 -	115%		•		
Ethylbenzene-d10			108%		75 -	125 %			"	
4-Bromofluorobenzen	e (Surr)		100%		85 -	120%			**	
Fluorobenzene (Surr)			101%		75 -	125 %	'n		n	
SSH0168-25 (GTP4-6.0-082709)		Soi	ı		Sampl	led: 08/2	7/09 15:49			
Bromomethane	8260B STD Dry	ND	0,00053	0.0014	mg/Kg dry	ŧχ	49722	09/04/09 12:30	09/04/09 21:12	-
Chloroethane		. ND	0,00037	0.0014		н	•	44	4	•
Chloromethage	•	ND	0.00034	0.0014	*	-	•	•	u	
trans-1,3-Dichloropropene	H	ND	0.00025	0.0014	49			•	**	
Chloroform	•	ND	0.00020 -	0,0014	*		•	ц	. "	
Ethylene Dibromide	μ	ND	0.00018	0.0014	ø		•	4	•	
1,2-Dichloroethane	N	ND	0.00022	0.0014	ži.	**	"	н	4	
Carbon tetrachloride	й	ND	0.00051	0.0014	a	н	1 16	<b>B</b> I	н	
Frichloroethene	н	ND	0.00024	0.0014	4	ŧi	"	il	я	
,2-Dichloropropane	u	ND	0.00024	0,0014	•	"	,,	•	•	
Dichlorobromenthane		ND	0.00010	0,0014			_ <del></del>			

TestAmerica Spokane

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Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created: 10/01/09 10:07

## Volatile Organic Compounds (GC/MS)

				TestAme	erica Ta	coma		,			
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-25	(GTP4-6.0-08270	19)	Se	sil		Samp	sied: 08/2	27/09 15:49			
cis-1,3-Dichloropro	pene	8260B STD Day	ND	0.00016	0.0014	mg/Kg dry	łх	49722	09/04/09 12:30	09/04/09 21:12	
1,1,2,2-Tetrachloro	ethane	"	ND	0.00012	0.0028	•		"	*		
Bromoform		ч	ND	0,000099	0.0014	*		n	4	ч	
1,2,3-Trichloroprop	ane	v	ND	0,00050	0.0014	•	ь	Þ	*1	u	
1,2-Dibromo-3-Chle	oropropane	•	ND	0.00025	0.0028		-		•1	a	
Hexachlorobutadien	ie	•	ND	0,00046	0,0014	ч	4	٠	*	e e	
Surrogate(s):	Toluene-d8 (Surr)			108%			- 115%	,	,		
	1,2-Dichloroethan			98%			125 %			w	
	4-Bromofluorober			114%		85 -	120%	•		U	
SSH0168-25RE1	0168-25REI (GTP4-6.0-082709)			il		Samo	led: 08/2	7/09 15:49			
1,1-Dichloropropens	<del></del>	8260B STD Dry		0,0028	0.061	mg/Kg dry	lx	49942	09/09/09 17:34	09/10/09 10:09	
1,2-Dichlorobenzeni		"	ND	0.0040	0.061	ing ing au	4	0	11		
4-Chlorotoluene	•	п	ND	0.020	0,061	N)		n	11	w	
Bromomethane	•	II .	ND	0,038	0.22	n	b	n		4	
Chloroethane		*	ND	0.035	0.61	н	*	ų	м	*	
Dichiorodifluoromet	hone	•	ND	0.012	0.061	н	,	4	H	•	
teri-Butylbenzene		u	ND	0.00-19	0.061		•			**	
1,2,4-Trimethylbern	zene	4+	0.054	0.0032	0.061	Ir	•	N	n	*	ı
Chloromethane			ND	u,u92	0.61	n	• .	*	-	**	
Trichlorofluorometh	ane	<b>p</b>	ND	0.0077	0.061	D	•		*	*	
1,1-Dichloroethene		H.	ND	0.0077	0.031	11	•		*	49	
sec-Butylbenzene		и	ND	0,0077	0.051	Ð	*	н	•		
Vinyl chloride		п	ND	0.0026	0.012	•	-	-	-	**	
1,3-Dichlorobenzene		Ü	ND	0.0077	0.061	h	-	и	•	<b>*</b>	
2,2-Dichloropropane		p	מא	0,0057	0.061	. "		"	ч	*	
Methylene Chloride		ď	0.014	0.0058	190.0	• в	•	u	"	,,	1
4-Isopropyltoluene	•		ND	0.0043	0.061	, u	-	•	4		
cis-1,2-Dichloroether	ne	II	ND	0.0037	0,061	ú	•	**	4	n	
trans-1,2-Dichloroeth	ene		ND	0.0054	0.061	v	*	•	н	u u	
1,1-Dichloroethane		и .	. ND	0.0038	0.061	**	-		-	в.	
1,4-Dichiorobenzene		•	ND	0.0077	0.061		*	•1		n	
Chlorobromomethans	•	И	ND	0.018	0.061		*	*	h	a ·	
trans-1,3-Dichloropro	pene	rí	ND	0.0061	0.025	н		•	Р	4)	
Benzene		Ŋ	ND	0.0038	0.025	*	*		n	*1	
Chlaroform		b	ND	0.0032	0.061	•	*	•	•	*1	
Ethylene Dibromide		•	ND	0.0049	0,061	1)			•	•	
1,1,1-Trichloroethane		н	ND	0,0077	0.061	D	•	н	•	4	

TestAmerica Spokane

The results in this repure apply to the samples analyzed in accordance with the chain of custody ducument. This conducted report must be reproduced in its entirety





11922 E. 1ST AVENUE SPOXANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/01/09 10:07

## Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSH0168-25RE1 (GTP4-6.0-08	32709)	Soi	il		Samp	led: 08/2	27/09 15:49			
1,2-Dichloroethane	8260B STD Dry	ND	0.0034	0,061	mg/Kg dry	1x	49942	09/09/09 17:34	09/10/09 10:09	
Carbon tetrachioride	*	ND	0.0057	0.031	•	u	u	n	*	
Trichloroethene	. 4	ND	0.0052	0.025	•	u	"		п	
1.2-Dichloropropane		ND	0.0060	0.018	н	•	4	м,	μ	
Dibromomethane		ND	9,0961	0.061	н	ď	15	**	и	•
Toluene		0.031	0.0037	0.061	11	"	1	•	н	
Dichlorobromomethane	lt	ND	0.0046	0.061	11	**	10	11	. н	
1.1,2-Trichtoroethane	a	ND	0,0028	0.018	•	*	i#	10		
eis-1.3-Dichloropropene	4	ND	0.0037	0.025	•		*	п		
Chlorobenzene	te	NĐ	0.0035	(1.06.1)	*1	u		•	•	
Terrachioroethene		ND	0,0032	0.031	6	•	tì	n	a	
1,3-Dichloropropane		ND	0.0077	0.061	p	N	9		ж	
Ethylbenzene	u	0.0068	0.0057	0.061	п		•		•	
1,1,1,2-Tetrachloroethane		ND	0.0074	0.061	4		•	a	*	
Chlorodibromomethane	a	ND	0.012	0.061	•		•	u	0	
1,1,2,2-Tetrachloroethane	ú	ND	0.0051	0.015	и	Þ		•	n	
m-Xylene & p-Xylene	•	0.087	0.012	0.061	,	. 0	<b>h</b>	v	•	
o-Xylene	μ	0.081	0.0035	0.061	**	"	•	В	-	
Styrene		ND	0.0058	0.061		۳.	*		*	
Bromoform		ND	0.017	0.061	a		•			
Isopropylbenzene	¥.	ND	0.0038	0,061	H	. "	et	11	·	
Вготобепиене	41	ND	0.0042	0.061		•	ıı .		ā	
N-Propylbenzene	п	ND	0.0043	0.061	**	41	•	•	•	
1,2,3-Trichloropropane	b	ND	0.018	0.061		н	"	•	•	
2-Chlorotoluene	P	ND ·	0.0083	180.0	*	•	ŧ	п		
I,3,5-Trimethylbenzene	ú	0.022	0.0065	0.061		•1	I#	и	el .	•
n-Butylbenzene	- I	ND	0.011	0.061	n	41		•	41	
1,2-Dibromo-3-Chloropropane	.ei	ND	0.10	0.31	и	0	•		•1	
1,2,4-Trichlorobenzene	и	ND	0.0077	180.0	•	н	•		41	
1,2,3-Trich)orobenzene		ND	0.0077	(1,061	•	<b>»</b>	•		-	
Hexachlorobutadiene	6	ND	0,0086	0.061	•	р	•		4	
Naphthalene	н	ND	0,0092	0.061	49	l•	B\$	1)	-	
Surrogate(s): Toluene-d8 (Surr)			102%		85	115%	n .		"	
Ethylhenzene-d/0			107%			125 %	"		"	
4-Bromo/luoroben	zene (Surr)		101%			120 %	"	•	Ir .	
Fluorobenzene (Su	er)		104%		75	125 %	H		ai .	

TestAmerica Spokane

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## ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 12, 2010

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site.

Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of 12 samples collected from the Avery Landing site in Avery, Idaho, was performed by Golder Associates, Inc., Redmond, Washington. The validation was performed as listed in the Tier III and IV Data Validation Summary Checklist (attached). Target analyte list (TAL) metals (EPA Methods 6010, 6020, and 7470), polychlorinated biphenyl (PCB; EPA Method 8082), dieselrange total petroleum hydrocarbons (Method NWTPH-Dx), and semivolatile organic compounds (SVOCs; EPA Method 8270) analyses were performed by Test America, Spokane Valley, Washington.

The samples were numbered:

G-MW11FP-090109	G-GA2-090209	G-GA4-090209
G-DW01-090109	G-GA3-090209	G-GA3D-090209
G-MW5-090109	G-GA3-090309	G-GA3D-090309
G-MW11FP-090109	G-GA2-090309	G-GA4-090209

See the attached Checklists and associated data results pages provided by Golder Associates for qualified sample results.

GOLDER PROJECT #: 073-9331	2.05	SI	SITE: Avery Landing/ POTLATCH / Idaho							
LABORATORY: Test America		SI	SDG: SSI0028							
SAMPLES:	Collect	~09	MATRIX WATER							
_G-GA4	}			<u></u>	)					
G-DWOI	0 03	- ^ G			-{					
G-GA3D	9-03	<u> </u>			}					
G-EMW5	4				4					
G-MWILFP	9-0	1-09		V	NATER,	CTHE				
REVIEW ITEM	DATA ASSES	ICP/MS	MMARY  Hg/ <del>-Se</del>	CN 2	Anions	OTHER				
RETIETT HEN	6010	6020	7074	OIV ?	Allions	OTHER				
1. Data Completeness	6010	6020	7014			ļ				
Holding Times	+		>-	·		<u> </u>				
3. Calibration			<del></del>		· · · · · · · · · · · · · · · · · · ·	<del>                                     </del>				
4. Blanks		@ X	<del>- }-</del>	<del></del>						
5. Lab Duplicate, Field Duplicate RPD			<del>\</del>	·						
6. LCS, Blank Spike, MFS	(3) X	(4) X		,						
7. Matrix Spike, MSD			-			· · · · · ·				
8. GFAA, MSA, Serial Dil.	(5) X		<b>E S</b>							
9. Detection Limits, Other QC						<u> </u>				
10. Data Verification,		$\overline{\bigcirc}$			<del></del>					
Overall Summary						<u></u>				
<ul> <li>Data had no problems</li> <li>Data qualified due to minor problems [tyle= Data qualified due to major problems [tyle= Data unacceptable [typically data rejected]</li> </ul>	pically more than 5 (R).	ata (J or UJ)].								
	Moin Smi	shange	a to N	DOTI	F(NZ).	detac				
3 Al Felly Kout of 1	ivint in the	Her LC	5/0533	sinesalts	queli.	3/45.				
(4) Curcovery low in	ms/msp - KmZ. tin			salts qu	A. 3.					
alidated by:	Fre BA		Date:	Nov. U.	2009					
eviewed by:	\ / [		Date:							

## Acceptable: YES 1. Date Package Completeness (Check if present)..... <u></u> ∠Çase narrative ✓ Instrument Det. Limits / Acceptable PICP Correction Factors x Absent ∠Chain of Custody Sample Results ICP Linear Ranges o Not required for CV/CCV Results Preparation Logs data package Analysis Run Logs requested. <u>⊮</u>∯lank Results ✓CP Interference Check Results ✓ICP Raw Data Śpike Recovery Results GFAA Raw Data ∠Hg Raw Data Duplicate Results LCS Results Cyanide Raw Data tandard Addition Results Other MCP Serial Dilution Comments/Qualified Results: 2. Holding Times (Check all that apply)..... <u> ✓ICP/GFAA</u> metals completed in <6 months from collection </p> ✓Mercury analyzed in <28 days from collection __Cyanide completed in 14 days from collection Comments/Qualified Results: TotRecov 3. Calibrations (Check all that apply)...... ICV/CCV %R for ICP/AA, 90%-110%, acceptable _ICV/CCV %R for Hg, 65%-79% or 121%-135%, ICV/CCV %R for ICP/AA, 75%-89% or 111%-125%, results estimated (J/UJ) results estimated (J/UJ) _ICV/CCV %R 85-115% for Cyanide, results ICV/CCV %R for ICP/AA, <75% or >125%, reject acceptable positive results (R) ICV/CCV %R 70-84% or 116-130%, results __ICV/CCV %R 80-120% for Hg, results accepted __CRDL Check Stnd %R 70 __ 130, (50-150 SbPbTI) estimated (J/UJ) _ICV/CCV %R <70% or >130%, reject pos results (R) 4473/8 + 315/8, 749/9 6010 Comments/Qualified Results

## Acceptable: YES 4. Blanks (Check all that apply)..... Detects reported in ICB/CCB list: Detects in preparation blanks, list: Detects in field blanks, list Qualified as undetected (U) all sample concentrations ≤10X any associated blank concentrations and less than the PQL, or J+ for samples greater than the PQL. 5. Duplicates (Check all that apply)..... Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X CRDL. Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CRDL Field Duplicate ID 5mpl-01 (501) Comments/Qualified Results 7. Laboratory Control Samples, Blank Spikes (Check all that apply)... VLCS %R 50-79% or >120%, results >IDL estimated (J) ✓LCS %R 50-79% and results <IDL estimated (UJ) LCS %R <50% and all results rejected (R/UR) ep

8. Spike Recovery (Check all that apply)
Spike %R with 75-125%  Spike %R 30-74%, >125%, results > IDL est. (J)  Spike %R 30-74% results <idl %r="" (uj)="" 30-74%="" 75-125%,="" <idl="" ag<="" estimated="" excpt="" results="" spike="" th=""></idl>
Comments/Qualified Results: MSon Supl-01 (SOIL): Qu recov. (X) MSon Supl-02 (Water):
· · · · · · · · · · · · · · · · · · ·
9. GFAA Performance, MSA, or Serial Dilutions
Duplicate injection RSD <20%Duplicate injection RSD >20%, results > CRDL estimated (J)Analytical spike %R 85-115%Analytical spike %R 40-85%, results > IDL estimated (J)
Analytical spike %R 10-40%, results <idl %r="" (r)<="" (uj)analytical="" <10%,="" <idl="" estimated="" rejected="" results="" spike="" td=""></idl>
Comments/Qualified Results: Soll Smple-01: Ni, UCr exceed 10%
(WATER) Smpl-02"
10. Detection Limits, Other QC
Comments/Qualified Results:
11. Data Verification and Overall Assessment
Comments/Qualified Results:



11922 E. IST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924-9200 fax: (509) 924-9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Project Manager:

Avery Landing

Project Number: 073-9

073-93312-03 Doug Morell Report Created:

10/28/09 16:33

#### Metals (ICP)

TestAmerica Tacoma

			TestAm	erica Tac	oma					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0028-01	(G-MW11FP-090109)	(	Other (L)		Sam	pled: 09/(	17:10	17:10		
Aluminum	6010B TMP	ND	UJ 11	310	mp/Kg	1x	20413	09/17/09 10:34	09/17/09 23:44	*
✓ Antimony	•	ND	0.60	11	•	•	•	n	**	
× Arsenic	4	2.2	0.46	11	п	u	4	•	P	1
Calejum	ч	43	5.3	190	н	•	. 4	a	n	
]ron	4	120	1.6	35	н	N	4	*	44	á
Lend	b	15	0.42	5.3	# 1	•1	: 4	el el		
Magnesium		21	2.3	190 E	I "	•	п	•	'n	سيسي والمستنسب
Manganese	»	1.6	0.028	3.5	٠,	¥	16	•	"	J
Potassium	n	ND	UJ 56	580	n	**	•	*	-	•
≯ Selenium	· u	ND	0.42	18		41	. н		· ·	
¥ Silver	ч	ND	0.16	3.5	0		u	•		
Sodiam	•	ND	2.5	350	(4	M	•1	и	p	
SS10028-01RE1	(G-MW11FP-090109)	c	ther (L)		Sam	led: 09/0	1/09 17:10			
<b>⊁</b> Cadmium	6010B TMP	DN	0.28	1.8	mg/Kg	lx	51220	10/01/09 10:41	10/01/09 18:38	
Beryllium	<b>u</b>	ND	0.0042	88,0	•		n	•1	•	
Barium		2.4	0.653	8.1	•	4		4		
Thallium	•	سجيل	0.49	18 <b>L</b>	L "	u	"	*	*	سطاجتسب
Nickel	•	31	J 0.28	3.5	•	*	ď	•	n	
Vanadium	4		0.11	1.8		•1	14	-	•	
Соррег	•		3 0.77	3.5	•	•1	ŋ	:	<b>u</b>	
Zine	•	6.9	0.70	8.8		н		n	•	J
Chromium	•	13 -	0.17	4.6	•	ь	н .	4		•
Cobalt		0.48	11,11	8.1	*		**	•	-	J

TestAmerica Spokane

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Redmond, WA 98077

Project Name:

Project Manager:

Avery Landing

Project Number:

073-93312-03

Report Created:

Doug Morell

10/28/09 16:33

## Metals (ICP) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10028-02	(G-GA2-090209)	-	. Wat	er		Sam	pled: 09/0	02/09 12:15			· · · · · · · · · · · · · · · · · · ·
Calcium		6010B Total Recoverable	27	0.028	1.1	ուց/ե	lx	50338	09/16/09 13:45	09/17/09 00:58	
Irou		b	0.065	0.032	0.20			*	*1	D	
Magnesium		**	6.6	0.23	1.1	•			•	n	
Sodium		a	2.8	<b>4</b> 0.18	2.0			•	•	u	لب
Manganese		"	0,25	0.0017	0.020		u	*1		•	
Potassium		н	2.3	0.41	3.3		ц	μ	n	09/17/09 12:23	
SS10028-03	(G-GA4-090209)	•	Wat	er		Sam	pled: 09/0	12/09 14:30			
Calejum		6010B Total Recoverable	34	0.028	1.1	mg/L	lx	50338	09/16/09 13:45	09/17/09 01:35	
Iron		ь	ND	0.032	0.20	ь	•	"	"		
Magnesium			9.9	0.23	1.1	•	••	ď		u	
Sodium	•	и	2.8	0.18	2.0	н	U	*		*	لبر
Manganese			0.18	0.0017	0.020	n	11	le .		•	
Potassium		•	3.2	0.41	3.3	ai	U	u	п	09/17/09 12:51	
SS10028-04	(G-DW01-090209)		Wate	:F		Sam	pled: 09/0	2/09 18:50			
Calcium		6010B Total Recoverable	38	0.028	1.1	mg/L	1x	50338	09/16/09 13:45	09/17/09 01:41	
Iron		a	8.8	0.032	0.20	. "	•		*	ń	
Magnesium		ь	11	0.23	1 1	ч	84		. <b>"</b>	10	
Sodium			2.4 J+	0.18	2.0	4	n	•		•	ننسر
Manganese		•.	0.22	0.0017	0.020	ь	μ	••	"	n	
Potassium		•	1.3	0.41	3.3	n	u	и	14	09/17/09 12:55	•
S\$10028-0 <i>5</i>	(G-GA3-090309)		Wate	r		Samı	oled: 09/0	3/09 09:40			
Calcium		6010B Total Recoverable	21	0.028	1.1	wħŢ	ix	50338	09/16/09 13:45	09/17/09 01:47	
lron		4	0.053	0.032	0.20	a		4	la .		.1
Magnesium		wi	3.3	0.23	1.1		•	а	ч	**	
Sodium		•	ستنسك فسيست	0.18	2.0 <b>t</b>	( "	•	ч	0		والمراسب
Manganese		•	0.44	0.0017	0.020	•	41	*	•	•	
Potessium		4	2.4	0.41	3.3	•	P		н	09/17/09 13:00	j

The 11-10-09

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 | lax: (509) 924.9290

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Redmond, WA 98077

Project Name:

Project Manager:

**Avery Landing** 

Project Number:

073-93312-03 Doug Morell

Report Created:

10/28/09 16:33

## Metals (ICP) Total Recoverable

TestAmerica Tacoma

								<del></del>			
Analyte		Method	Result	MDL+	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10028-06	(G-GA3D-090309)		Wa	ter		Sam	pled: 09/(	13/09 09:50			
Calcium		6010B Total Recoverable	21	0.028	1.1	mg/L	. 1x	50338	09/16/09 13:45	09/17/09 01:53	
iron		p	0.050	0.032	0.20	**	•	1	ti.	v	
Magnesium		•	3.3	0,23	1.1	4)	D	P	19	н	
Sodium	•	•	سسكهاسس	0.18	2.0	U "		#	¥	-	سلنب
Manganese		11	0.45	0.0017	0.020			•1	•1		
Potassium		,	2.5	0,41	3.3	h	11	6	. "	09/17/09 13:04	
SS10028-07	(G-MW5-090309)		Wa	ter		Samı	oled: 09/0	3/09 12:00			
Calcium		601013 Total Recoverable	24	0,028	1.1	mg/L	lx	50338	09/16/09 13:45	09/17/09 02:00	
Iron	•	•	10	0.032	0,20			4	n	*	
Magnesium		•	8.0	0.23	1.1	н	•	*	n	4	
Sodium		Þ	2.7 J	+ 0.1x	2.0	ш	*	u	н		أسبيه
Manganese		4	1.4	0.0017	0.020		•	*		-	
Potasshim	*	u	1.6	0.41	3.3	u	þi	71		09/17/09 13:09	

TestAmerica Spokane

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Golder Associates, Inc.

Redmond, WA 98077

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SPOKANE, WA

11922 E, 1ST AVENUE SPCKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fak: (509) 924.9290

Avery Landing Project Name:

Project Number:

073-93312-03

Report Created:

Project Manager: Doug Morell 10/28/09 16:33

## Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10028-02 (	(G-GA2-090209)		ν	Yater		Sampled: 09/02/09 12:15					
Arsenic		6020 Total Recoverable	ИD	0.00024	0.0020	mg/i.	5x	50336	09/16/09 13:15	06.19/10/18/22	
Barium			0.077	0.00027	0.0060	P	n	n	•	tr.	
Antimony .			ДN	0.00040	0.0020				H		
Beryllium		ø	ND	0.00026	0.0020	"	**	"		u	
Cadmium		D	ND	0,00014	0.0020		• •	"	19	. "	
Selenium			מא	0.00034	0,0020	•	41	n	n	II.	
Chromium		44	0.00071	0.00037	0.0020	n	ıl	"		μ	.3
Silver		n	ND	0.00015	0,0020	"		ь	*1	н	
Cobalt		*	0.00070	0.00016	0.0020	n	n	u	н	ч	.I
Thallium			ND	0.000060	0.0040	"	,	•	ų		
Copper			0.0026	0,00015	0.0050	TIV	§ .	4	•	nt	J.
Vanadium		D	ND	0,00023	0.0020	Į	· ·	ú	i	-	
Lend	•	*	0.00018	0.0001	0.0020	. •	**	-	••	n	Ţ
Zine		•	0.0027	0.0020	0.0070			".	•	19	1
Nickel			0.0024	0.00022	0.0020		n		•	•	
SSI0028-02RE1	(G-GA2-090209)	6020 Total Recoverable		L 0.0023	0.40		5x 3-09	51212	09/16/09 13:15	09/30/09 19:50	المراز
SS10028-03 (	G-GA4-090209)		w	ater	(1)00		ンつて pled: 09/02	:/09 14:30			
Arsenic		6020 Total Recoverable	ND	0.00024	0.0020	nig/).	5x	50336	09/16/09 13:15	09/16/09 19:35	
lucium	a.	•	0.025	0.00027	0,0060	N	и		, 14	b	
antimony		N	0.0028	0.00040	0.0020		и		**	**	
Beryllium	* •		ND	0.00026	0.0020	•	4*		•	11	
Cadmium	•	4	ND	0.00014	0.0020	*		•	<b>el</b>		
icienium		u	ND	0.00034	0.0020		•		**	U	
Chromium			0.00062	0.00037	0.0020		п		11	n	ţ
ilver		•	ND	0,00015	0.0020		ч	•		n	
obalt		e e	0.0013	0.00016	0.0020	e	Ħ	•	н	*	1
hallium —		"	0.00013	n 000060	0.0040	ļ "	**	*	и	H	المبلسد
Opper		n	0.0037	0.00015	0.0050	H		•	et	•	
/anadium		11	ND	0.00023	0.0020	. •	•	h		•	
ead		•	ND	0.00017	0.0020		•	ь .	•		
line		•1	0.0031	0.0020	0.0070	17	"	D	H	4.	J
lickel		*	0.0027	0.00022	0.0020	4	*	P	-		

TestAmerica Spokano

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/28/09 16:33

#### Metals (ICP/MS) Total Recoverable TestAmerica Tacoma Units Analyte Method Result MDL* MRL Dil Batch Prepared Analyzed Notes SS10028-03REI (G-GA4-090209) Water Sampled: 09/02/09 14:30 09/16/09 13:15 6020 Total 0.0023 51212 09/30/09 20:26 0.071 0.40 Aluminum mg/L Recoverable Sampled: 09/02/09 18:50 (G-DW01-090209) Water SS10028-04 6020 Total ND 0.00024 0.0020 50336 09/16/09 13:15 09/16/09 19:39 Arsenic Recoverable 0,00027 0.0060 0.019 Barium 0,00040 0.0020 0.0018 Antimony Beryllium ND 0,00036 0.0020 0.00014 0.0020 Cadmium ND 0.00034 0.0020 Selenium 0,0010 0.00037 0.0020 Chromium ND 0.0020 0.00013 Silver ND Cobalt ND 0.00016 0.0020 0.0040 Thallium 0,000085 0.000060 0.0020 0,00015 0.0050 Copper 0.00023 Vanadium ND 0.0020 0,00030 0.00017 0.0020 Lead Zlue 0.24 0.0020 0.0020 Nickel 0.0014 0,00022 0.0020 Water Sampled: 09/02/09 18:50 SSI0028-04RE1 (G-DW01-090209) 09/16/09 13:15 6020 Total 0.0023 9.40 💢 mg/t. 51212 09/30/09 20:30 Aluminum Recoverable 11-13-09 Sampled: 09/03/09 09:40 SS10028-05 (G-GA3-090309) Water nu<u>z</u>u Loui 19000,0 0.00024 mg/1. 50336 09/16/09 13:15 Arsenic Barium 0.038 0.00027 0.0060 0.00040 0.0020 Antimony 0.0015 Beryllium 0.00026 0.0020 ND 0.0020 0.00013 Cadmium ND Selenium ND 0.00034 0.0020 0.00038 0.00037 0.0020 Chromium Silver ND 0.00015 0.0020 0.00038 0.00016 0.0020 Cobalt Thallium ND 0.000060 0.0040 0.00015 0.0050 Copper 0.0016 Vanadium 0.00075 0:00023 0.0020

Randee Decker, Project Manager

TestAmerica Spokane

Lead

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0.00017

0.0020

ND



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax; (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell Report Created:

-10/28/09 16:33

#### Metals (ICP/MS) Total Recoverable TestAmerica Tacoma MRL Dil Analyzed Method Result MDL* Batch Prepared Analyte Notes Sampled: 09/03/09 09:40 Water SSI0028-05 (G-GA3-090309) 09/16/09 13:15 6020 Total 0.0025 0.0020 0,0070 58 50336 09/16/09 19:43 Zinc 0.0020 0.00022 Nickel 0.0024 Water Sampled: 09/03/09 09:40 SSI0028-05RE1 (G-GA3-090309) 09/16/09 13:15 51212 09/30/09 20:33 0.0023 0.40 LL mg/L 6020 Total Aluminum 2.070 Recoverable Water Sampled: 09/03/09 09:50 SS10028-06 (G-GA3D-090309) 6020 Total 50336 09/16/09 13:15 09/16/09 19:46 0.00072 0.00024 0.0020 m<u>p</u>/)_ A rsenie Recoverable Barium 0.038 0.00027 0.0060 Antiniony 0.0012 0.00040 0.0020 Beryllium ND 0.00036 0.0020 Cadmium ND 0.00014 0.0020 ND 0.00034 0.0020 Selenium 0,00037 0.0020 Chromium ND ND 0.00015 Silver 0.00016 0.0020 0.00036 Cobalt 0.000060 0.0040 NĐ Thallium 0.00015 0.0050 Copper 0.0017 0.00023 0,0020 Vanadium ND 0.00017 0.0020 ND Zinc 0.0023 0.0020 0.0070 Nickel 0.0024 0.00022 0.0020 Water Sampled: 09/03/09 09:50 SS10028-06RE1 (G-GA3D-090309) 09/16/09 13:15 0.40 U mg/L 6020 Total 0.081 0.0023 51212 09/30/09 20:37 Aluminum Recoverable 11-13-09 Water Sampled: 09/03/09 12:00 SS10028-07 (G-MW5-090309) 09/16/09 13:15 6020 Total 0.00034 0.0020 mg/L 5x 50336 09/16/09 19:50 Arsenic 0.010 Recoverable 0.00027 0.0060 Barium 0.055 0.0015 0.00040 0.0020 Antimony ND 0.00026 0.0020 Beryllium

TestAmerica Spokane

Cadmium

Selenium

Chroniun

Silver

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirely:

Randee Decker, Project Manager



0.00014

0.00034

0:00037

0.0020

0,0020

0,0020

ND

ND

ND

0:0043



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/28/09 16:33

## Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prenared	Analyzed	Notes
SSI0028-07 (G-MW5	i-090309)	W	ater		Sam	pled: <b>09/</b> (	03/09 12:00			
Cobalt	6020 Total Recoverable	0.0032	0.00016	0.0020	mg/L	<b>5</b> ×	50336	09/16/09 13:15	09/16/09 19:50	
Thallium	п	8,000080	0.000060	0.0040 1	<b>.</b> "	**	6	et .		للبلس
Copper	*	0.018	0.90015	0.0050	•		**	,,	II.	
Vanadium	*	0.0057	0.00023	0,0020	a a	*	·	"	"	
Lead	Ð	0.012	0.00017	0.0020 ,	n	D	*	-	-	
Zine .	ıı .	0.028	0,0020	0.0070	•		н	•	M.	
Nickel	u	0.0057	0.00023	0.0020	•	п	"	n	1)	
SS10028-07RE1 (G-MV	N5-090309)	w	ater		Sam	pled: 09/0	3/09 12:00			
Aluminum	6020 Total Recoverable	3.7	0,0023	0,40	πg/L	5x	51212	09/16/09 13:15	09/30/09 20:41	В

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmand, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager:

073-93312-03

Doug Morell

Report Created: 10/28/09 16:33

## Mercury (CVAA)

PD 4 4		~
LIPSTA	merica	Tacoma

				7 0317 1111	0.704 144						
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10028-01	(G-MW11FP-090109)		0	ther (L)		Sam	pled: 09/6	01/09 17:10			
Mercury		7471A	ND	0,0055	0,018	mg/Kg	lx	50401	09/17/09 09:56	09/17/09 12:58	
SS10028-02	(G-GA2-090209)		Water			Sampled: 09/02/09 12:15					
Mercury		7470∧	ND	0.000041	0.00020	my/L	ls	50342	09/16/09 14:15	09/16/09 16:32	
SS10028-03	(G-GA4-090209)		w	Sam	pled: 09/(	02/09 14:30					
Mercury		7470A	ND	0.000041	0.00020	mg/L	lx	50342	09/16/09 14:15	09/16/09 16:15	
SS10028-04	(G-DW01-090209)	· 	w	Sampled: 09/02/09 18:50							
Mercury		7470A	ND	0.000041	0.00020	ing/L	lx	50342	09/16/09 14:15	09/16/09 16:36	
SS10028-05	(G-GA3-090309)		w	Samp	oled: 09/0	3/09 09:40					
Mercury		7470A	ND	Œ 000041	0.00020	mg/L	lĸ	50342	09/16/09 14:15	09/16/09 16:41	
SS10028-06	(G-GA3D-090309)		Water			Sampled: 09/03/09 09:50					
Mercury		7470A	ND	0.000041	0.00020	mg/L	lx	50342	09/16/09 14:15	09/16/09 16:45	
SS10028-07	(G-MW5-090309)		Water			Sampled: 09/03/09 12:00					
Mercury		7470A	0.000073	0,000041	0.00020	mg/L	lx	50,342	09/16/09 14:15	09/16/09 16:49	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its onlively.



GOLDER PROJECT #: 073-93	312 05	_ <del>_</del>	SITE: A.	very Landin	ø/ P∩TI A	тсн /та	aho					
LABORATORY: Test Americ		<del></del>	SDG: #9		g I O I LA	1011/10	.axto					
SAMPLES		Collect		5510020	MATRI	X	<del></del>					
G-GAZ	G	-02-0		,	NATE							
6-6A4		1	, <u>, , , , , , , , , , , , , , , , , , </u>	· <del></del>	1	1	<del></del>					
G-DW01	* .				7							
G-643				· <del>-</del>	-							
G-GA3D		(										
G-MUIS		V			V							
DATA ASSESSMENT SUMMARY												
REVIEW ITEM	VOA	BNA	Pest / PCB	TPH-Dx	PAH - SIM	OTHER	OTHER					
1. Data Completeness		0	0	0								
2. Preservation, Holding Times					(3)							
3.GC/MS Tune, Inst. Performance		3										
4. Calibrations					0							
5. Surrogates												
6. Internal Standards												
7. Lab Blanks, Field Blanks 3			0		$\times$							
8. Lab Duplicates, Field Duplicates												
9. LCS, Blank Spike, MS/MSD												
10.Compound Identification, TICs				$\bigcirc$								
11. Result Verification, D.Limits			$\bigcirc$		$\bigcirc$							
12. Overall Summary												
O = Data had no problems  X = Data qualified due to minor prob  M = Data qualified due to major prob  Z = Data unacceptable [typically data  Comments/Qualified Results:	olems [typi lems [typic rejected (I	cally estimate the cally more the cally more the cally more the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the call the ca	ian 50% qua A <b>rochlo</b>	ouj)]. Hiffed (J/UJ). Hiffed (J/UJ).	of lim	it for	<u>- S</u> R9)					
(2) Select contamina results as ND (L Pyrene.	aunts 1) For	in PAI I-meth	l mell ylmapti	nod blav nalem, plas	IK qua enanthr	lity as	ssoc.					
Validated by:	X _g	) Pap			Date: ()	lov. 10,	Z00G					

Sample Results Internal Standards X Al Detection Limits MS/MSD, LCS Results O GC/MS Tuning Preparation Logs date	cceptable bsent ot required for ata package equested.	
Chain of Custody Sample Results Detection Limits GC/MS Tuning Initial Calibration Continuing Calib.  Comments/Qualified Results:  Punpreserved VOA analyzed in 7 days from collection BNA samples extracted within 7 days (14 day soil) of collection BNA extracts analyzed within 40 days of collection Pest/PCBs samples extracted within 7 days (14 day soil) of collection Pest/PCBs extracts analyzed within 40 days of collection Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit. Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB	bsent ot required for ata package equested.	
2. Holding Times (Check all that apply).  **Punpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  **BNA samples extracted within 7 days (14 day soil) of collection  **BNA extracts analyzed within 40 days of collection  **Pest/PCBs samples extracted within 7 days (14 day soil) of collection  **Pest/PCBs extracts analyzed within 40 days of collection  **Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit. Outside detects as (J) and non-detects as (UR).  **Comments/Qualified Results:**  **POAY**  **PALL**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY**  **ADAY		
Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  BNA samples extracted within 7 days (14 day soil) of collection  BNA extracts analyzed within 40 days of collection  Pest/PCBs samples extracted within 7 days (14 day soil) of collection  Pest/PCBs extracts analyzed within 40 days of collection  Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit, Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB:  A Day  PAN:  A Day		
Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  BNA samples extracted within 7 days (14 day soil) of collection  BNA extracts analyzed within 40 days of collection  Pest/PCBs samples extracted within 7 days (14 day soil) of collection  Pest/PCBs extracts analyzed within 40 days of collection  Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit, Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB:  A Day  PAN:  A Day		
Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  BNA samples extracted within 7 days (14 day soil) of collection  BNA extracts analyzed within 40 days of collection  Pest/PCBs samples extracted within 7 days (14 day soil) of collection  Pest/PCBs extracts analyzed within 40 days of collection  Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit, Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB:  A Day  PAN:  A Day		
Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  BNA samples extracted within 7 days (14 day soil) of collection  BNA extracts analyzed within 40 days of collection  Pest/PCBs samples extracted within 7 days (14 day soil) of collection  Pest/PCBs extracts analyzed within 40 days of collection  Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit, Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB:  A Day  PAN:  A Day		
Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  BNA samples extracted within 7 days (14 day soil) of collection  BNA extracts analyzed within 40 days of collection  Pest/PCBs samples extracted within 7 days (14 day soil) of collection  Pest/PCBs extracts analyzed within 40 days of collection  Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit, Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB:  A Day  PAN:  A Day		
Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  BNA samples extracted within 7 days (14 day soil) of collection  BNA extracts analyzed within 40 days of collection  Pest/PCBs samples extracted within 7 days (14 day soil) of collection  Pest/PCBs extracts analyzed within 40 days of collection  Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit, Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB:  A Day  PAN:  A Day		
Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  BNA samples extracted within 7 days (14 day soil) of collection  BNA extracts analyzed within 40 days of collection  Pest/PCBs samples extracted within 7 days (14 day soil) of collection  Pest/PCBs extracts analyzed within 40 days of collection  Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit, Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB:  A Day  PAN:  A Day		Ö
Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection  BNA samples extracted within 7 days (14 day soil) of collection  BNA extracts analyzed within 40 days of collection  Pest/PCBs samples extracted within 7 days (14 day soil) of collection  Pest/PCBs extracts analyzed within 40 days of collection  Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit, Outside detects as (J) and non-detects as (UR).  Comments/Qualified Results:  PCB:  A Day  PAN:  A Day	<b>12</b> 2	
SVOA / <14 Day		
3. GC Instrument Tune, Performance Check	<b>o</b> t	
GC/MS Tuning performedRes Chk Mix, MidPoint AB <60%, (J for orPEM resolution <90% adj pks, (J for deteGC/MS Tuning out of control limits, (qualify R/UR)DDT, Endrin breakdown >20%, (J for DD Endrin Aldehyde, Endrin Ketone, or NJ/R)Res Check Mix, MidPoint AB, TCMX, DCBP within RT windows from ICAL AB mixture (Fix or R/UR)Comments/Qualified Results:	ects, UR other) D,DDT, Endri	1
	<del></del> -	·
<del></del>	<del></del>	<del></del> _
<del></del>		<del></del>

	Acceptable: Tes NO	
	4. Initial & Continuing Calibration (Check all that apply)	
	GC/MS Data:ICal RRFs>0.05 all cmpnds (If no, J/UR), [>0.01 for Poor Performers] VOA, SVOAICal RSD of RRF <30% all cmpnds (If no, J detects) [<50% for Poor Performers] VOAICal RSD of RRF<20.5% all cmpnds (If no, J detects) [<50% or *30% for Poor Performers] SVOA Note: *Applies to 2,4-DNT, 2-Nitrophenol 2,4-DMP only (SVOA).	
	Continue Cal. +/- 30% Diff of RRF (If no, J/UJ) [+/- 50% Diff, Poor Performers] VOA, SVOAContinue Cal. %D <25% all cmpnds (If no, J/UJ) , VOA, SVOA  Pesticide/PCB:RSD<10% for performance checks (If no J detects)Stnds analyzed prior to analysis, & at proper frequency	
	Continuing Cal. % Diff. <15% for quant. (<20% for confirm column)	o Quel
Ø.	#52272 COALL FOR A-1221, -1232, -1242, -1248, -1254,	2880c.
<u>ح</u>	results qualif (T/UJ).	_
-		-
-		-
	5. Surrogates (Check all that apply)	_
	✓ Surrogates analyzed	
- -	PRecoveries within Method Control (lab) limits (VOA: 80 – 120%, SVOA: Lab Established, PEST: 30-150%)  Recoveries above Method Control limits (J detects only)  Recoveries below Method Control limits but>20% (J/UJ)  Recoveries below 20%, 10% for PEST (J/UR for VOA, J/ UJ or UR for SVOA, J/UR for PEST)	
(	Comments/Qualified Results	-
=	51/14 Batch 501781	-
-	PAH-SIM Botch 49936	-
-	PCBs Botch 50176 52320	•
-		<del>.</del> .
-	· · · · · · · · · · · · · · · · · · ·	-
6	5. Internal Standards Performance	
 	_Internal standards added to al! QC and samples _Internal standards areas within Control Limits* [+/-40% VOA, +/-50% SVOA]* Associated with 12 Hour CCV Stnd.	
-	_Internal standards out of Control limits but >10% (J/UJ) _Internal standards zero or <10% of Control limits (J/UR) _Internal standards RTs within +/-20 sec window (If no, J/UJ)	
C	Comments/Qualified Results:	
_		
<del>.</del>		
_		

	Acceptable:	Yes	NO
7. Laboratory Blanks, Field Blanks (Check all that ap	ply)		
Method Blanks, Prep.Blanks analyzed after Cal Stnds and every 12 hoursMethod Blnk Common Lab Contaminants, list: MeCl2, Cyclohex (<10X R)Other Contaminants: Qualify results (< 5X RL) according to Chart belowInstrument blanks after all high level samples, All cmpnds must be <rl< td=""><td>Ls); Acetone, 2-butanoni</td><td>e (&lt;2X RLs</td><td>); Chart</td></rl<>	Ls); Acetone, 2-butanoni	e (<2X RLs	); Chart
Examples:	BLANK	SAMPLE	Q
Comments/Qualified Results: MDL 0.3	Result   PQL	Result 0.8	Applied
1PHDr -0045 413 NDs 0.3	0.99 1.0	1.8	1.8 J
#0077 %, NDs V 0.3	1.5   1.0   1.5   1.0	1.1 1.8	1.5 U 1.8 J
# 0094 9/16 NDS Q Q 03	0 1.0 0 1.0	0.85 1.8	0.85 J 1.8
PAUS -#50192 9/4 4 5090 - Tans	oth Nanda R	enan	h. Ryrene
in impthod blank > XIO rosults	201630	319	A279
PCBs -# 50176 %5 4 52320	16/21		1-0216-
LIDS -# 20140 112. 12.20	714 -	<del>-</del>	· ·
<u> </u>			· <del></del>
		/	
8. Duplicate, Field Duplicates (Check all that apply)			
Duplicate DBD <200/ for waters (<250/ for pails) for regults >5V CBDI			
Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X CRDL Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR	DL		
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR		V 2	facti msh.
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR	_{DL} 13 ven-assi	re.V	#0077 ms/m
_Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR		70.V	#0077 ms/m
_Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR		re.V	#0077 ms/m
_Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR		re.V	#0077 ms/m
_Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR		Te.V	#0077 MS/M
_Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR		re.V	#0077 MS/m
_Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR		Te.V	#0077 MS/M
_Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR		Te.V	#0077 MS/m
_Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR _Field duplicate RPD ≤20% (≤35% for soils)	13 pgm-0531		
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CRField duplicate RPD ≤20% (≤35% for soils)  Comments/Qualified Results	13 pgm-0531		#0077 MS/m
	13 pgm-0531		
	13 pgm-0531		
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR Field duplicate RPD ≤20% (≤35% for soils)  Comments/Qualified Results  DH-Dx  #004  B. MS/MSD, Lab Control Samples, Blank Spikes (Ch LCS %R 80-120% LCS %R 80-79% or >120%, results >IDL estimated (J)	13 pgm-0531		
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR Field duplicate RPD ≤20% (≤35% for soils)  Comments/Qualified Results  DH-Dx  # 4004  9. MS/MSD, Lab Control Samples, Blank Spikes (Ch LCS %R 80-120% LCS %R 80-120% LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <idl %r="" (r="" (uj)="" <50%="" all="" and="" estimated="" lcs="" rejected="" results="" td="" ur)<=""><td>13 pgm-0531</td><td></td><td></td></idl>	13 pgm-0531		
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR Field duplicate RPD ≤20% (≤35% for soils)  Comments/Qualified Results  DH-Dx  #004  9. MS/MSD, Lab Control Samples, Blank Spikes (Ch LCS %R 80-120% LCS %R 80-120% LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <idl (uj)<="" estimated="" td=""><td>13 pgm-0531</td><td></td><td></td></idl>	13 pgm-0531		
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR Field duplicate RPD ≤20% (≤35% for soils)  Comments/Qualified Results  DH-Dx  #004  B. MS/MSD, Lab Control Samples, Blank Spikes (Ch LCS %R 80-120% LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <idl #0043<="" %r="" (r="" (uj)="" <50%="" all="" and="" comments="" dh-dx="" estimated="" lcs="" qualified="" rejected="" results="" results:="" td="" ur)=""><td>eck all that apply)</td><td></td><td></td></idl>	eck all that apply)		
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR Field duplicate RPD ≤20% (≤35% for soils)  Comments/Qualified Results  DH-Dx  #004  B. MS/MSD, Lab Control Samples, Blank Spikes (Ch LCS %R 80-120% LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <idl #0043<="" %r="" (r="" (uj)="" <50%="" all="" and="" comments="" dh-dx="" estimated="" lcs="" qualified="" rejected="" results="" results:="" td="" ur)=""><td>13 pgm-0531</td><td></td><td></td></idl>	13 pgm-0531		
Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CR Field duplicate RPD ≤20% (≤35% for soils)  Comments/Qualified Results  DH-D*  Blank Spikes (Chouch Samples)  LCS %R 80-120% LCS %R 80-120% LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <idl #551<="" #co43="" %="" %r="" (r="" (uj)="" -#="" 50-79%="" 50195="" all="" and="" comments="" dh-d*="" estimated="" lcs="" los="" pahs="" qualified="" rejected="" results="" results:="" td="" ur)=""><td>eck all that apply)</td><td></td><td></td></idl>	eck all that apply)		

•	Acceptable:	Yes	NO
10.Compound Identification, TICs			
Comments/Qualified Results:		<del></del>	<del></del>
	<u>.</u>		<del></del>
		<del></del>	
		· · · · · · · · · · · · · · · · · · ·	<u> </u>
11. Result Verification,Detection Limits	***************************************		
All results supported in raw data Detection Limits appropriate to meet project needs (Review Work Plan, QAPP)			
Comments/Qualified Results:			
	<del></del>		
	<del></del>	· -	<del></del> _
	<del></del>	·	·
12. Overall Assessment			
Comments/Qualified Results:			<u></u>
	<u> </u>	<del></del>	
		·	
		· · · · · · · ·	



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell

Report Created: 10/28/09 16:33

## Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10028-05	(G-GA3-090309)		Water			Sam	pled: 09/(	3/09 09:40			
PCB-1016		8082 STD	ND	0.0042	0.047	ug/L	k	52320	09/09/09 17:01	10/19/09 19:21	
PCB-1221		ti	ND 🗘	<b>S</b> 0.0058	0.047	. "	11	31	11	•	
PCB-1232		•	ND \	0,0039	0.047	4	"	,	4	•	
PCB-1242		*	ND (	0.0039	0.047	*	49	4	4	•	
PCB-1248		••	ND (	0.0067	0.047			н		•	
CB-1254		4	ND ❤	0.0042	U.047	11	н		ia .	ıl	
CB-1260		tr.	ND	0.0037	0.047		•	*	•		
Surrogate(s	s): Tetrachloro-m-xytene		-	66%		60	- 150%	а			
	DCB Decachlorobiphen	yl		64%		40	- 135 %	H		"	
S10028-06	(G-GA3D-090309)		Wat	er		Samp	led: 09/0	3/09 09:50			
CB-(016		8082 STD	ND	0,0042	0.047	սը/Լ	lx	52320	09/09/09   7:01	10/19/09 19:37	
CB-1221		ч	ND N	0.0058	0.047	"	n	4	ŋ		
CB-1232		ı	ND \	0.0039	0.047			H	u	4	
CB-1242		4	ND )	0,0939	0.047	w	•	*	*	0	
CB-1248		*	NÐ \$	0.0067	0.047	н	•	•	•	44	
CB-1254		<b>*</b>	ND 🖖	0,0042	0.047	4	μ.	*	Ú	is.	
CB-1260		ь	ND	0.0037	0.047	P	•		ji .	*	
Surrogatets	): Tetrachloro-m-xylene			65%		60	· 150%			n	
3	DCB Decachlorobinhem	.i		52%			135 %	n		. и	

TestAmerica Spokane

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1<u>5000 2000 3000</u> Randee Decker, Project Manager





11922 E, 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager; 073-93312-03

Doug Morell

Report Created:

10/28/09 16:33

## Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

TestAmerica Tacoma

Analyte		Method Result	MDI	_* MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10028-01	(G-MW11FP-090109)		Other (L)		Sar	mpled: 09/	01/09 17:10			
PCB-1016	808	2 STD NE	0.1	4 0.43	mg/Kg	lx	50176	09/14/09 11:14	09/15/09 12:18	
PCB-1221	a	NE	0.3	0.43	4	41		U	*	
PCB-1232		NE	0.3	0.43	*	U	"	h	<b>.</b>	
PCB-1242	н	NE	0.08	9 0,43	•	. "	a	ч		
PCB-1248	ii ii	NE	0.05	5 0.43	n	u	4	н	u	
PCB-1254	. "	NC	0.08	9 0.43	,	1+	•		14	
PCB-1260	, ,	0.37	0.7	3 0.43	N)	H	4	'n	u	J, j
Surrogaie(s)	: Tetrachloro-m-xylene		87%		. 4	15 - 155 %	a · · · ·		er .	
	DCB Decachlorobiphenyl		110%		6	i0 - 125 %	a		46	
SS10028-02	(G-GA2-090209)		Water		. San	npled; 09/	02/09 [2:15			
PCB-1016	8082	STD ND	0.004	2 0.047	սը/Լ	1×	52320	09/09/09 17:01	10/19/09 18:50	
PCB-1221	μ	ND	0.005	N D.047	al		•	41	•	
PCB-1232	u	ND	0.0039	0.047		at		41	•	
PCB-1242	н	ND	( 0.003)	U,047		•		н	•	
PCB-1248	-	ND	0.006	7 0,047	**	••	•		-	
PCB-1254	•	<u>ND</u>	0.007	0.047	•	•	11	-		
PCB-1260	*	ND	0.003	7 0.047	ч	•	ŧı		и	
Surrogate(s).	Tetrachloro-m-xylene	,	63%		6	0 - 150%	"		#	
	DCB Decachlorobiphenyl		67%		. 40	0 - 135 %	<b>,,</b>		rr	
SS10028-03	(G-GA4-090209)		Water		Sampled: 09/02/09 14:30			•		
PCB-1016	8082	STD ND	0.0042	0.047	ug/L	lx	52320	09/09/09 17:01	10/19/09 19:06	
PCB-1221	n	. ND	UJ 0.0058	0.047	. "	•		*		
PCB-1232		ND	0.0039	0.047		•	•	"		
PCB-1242	4	ND	0.0039	0.047	ú	Þ	+	•		
PCB-1248	Ý	ND	0.0067	0.047	u	u		μ	v	
PCB-1254	и .	ND	0.0042	0.047	•	e	H	н .	n	
PCB-1260	я	ND	0.0037	0.047	*	•	н	n		
Surrogate(s):	Tetrachloro-m-xylene		64%		. 60		n			
•	DCB Decachlurobiphemil		73%			1- 135%	21		n	

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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Project Manager:

Avery Landing

Project Number:

073-93312-03 Doug Morell Report Created: 10/28/09 16:33

10/

## Semivolatile Compounds by Gas Chromatography/Mass

TestAmerica Tacoma

Analyte	Method	Result	. MDL*	MRL	Units	Dil	Batch	Prepared	Anniyzed	Notes
SS10028-01 (G-MW11FP-09010	9)	Oti	her (L)		Sam	pled: 09/0	1/09 17:10			
Naphthalene	8270C PAH	ND	1760	16000	ug/Kg	10x	50178	09/14/09 11:17	09/15/09 00:32	
2-Methylnaphthalene	•	16000	1800	16000	•		"	U	D	
I-Methylnaphthalene	*	52000	1-100	24000	*	•	a	a		
Acenaphthylene	U	ИD	1300	16000			*	a		
Acenaphthene	41	42000	/300	16000	μ		1)	-	"	
Fluorene	<b>e</b> i	68000	950	16000	п		n	*	40	•
Phenanthrene		140000	1700	16000	u		4		н	
Anthracene	a	26000	1100	16000			•		н	
Fluoranthene	n	69000	950	16000	•	n	N	•		
Pyrene	ч	110000	1100	16000	н		4	В	4	
Benzoja janthracene	• '	40000	1300	20000	"	•	4	11	п	
Chrysene	ti	71000	1100	20000		4	le .	-		
Benzo[b] fluoranthene		20000	3300	16000		u		•	q	
Benzojkjfluoranthene	u	3000	1000	20000	41	4	•	U	le	
Benzo[a]pyrene	•	25000	1700	24000	•	•	*	•		
Indeno[1,2,3-ed]pyrene	•	4700	3300	32000	-	•	41	*	•	,
Dibenz(a,h)anthracene		ND	1700	32000		n	4.	<b>e</b> I	• '	
Benzo[g,h,i]perylene	. 41	6700	1200	20000	Ħ	b	4		. 4	-
Surrogate(s): Nitrobenzene-d5		•	87%		38	- 141 %	"			•
2-Fluorobiphenyl			74%			- 140 %	п	•	H	
Terphenyl-d14		•	78%		42	- 151%	н	•	ri	

TestAmerica Spokane

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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number: **Avery Landing** 

Project Manager:

073-93312-03 Doug Morell

Report Created: 10/28/09 16:33

## Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

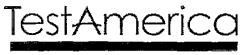
		TestAm	07100 1400						
Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
	Wa	iter		Sam	pled: 09/0	2/09 12:15			
8270C STD	0.0062	0.0034	0.0094	n#\ŗ	lx	49936	09/09/09 16:54	09/12/09 00:23	
4	0.0037	0.0028	0.012	•	¢1	•	D	4	
н	0.0025	0.0077	0.0094	<b>人</b> "	•	•	4	•	شمي
	ND	0.0070	0.0094		•			~	
n	0.0029	0.00094	0,0094	ie .	в	Ą	#	•	
D	0.0034	0.0011	0.0094			"	*	*	
ч	0.0078	0.0010	0.0094	L "	19		H	,	
	0.0021	0.00075	0.0094		*	"		Р	
•	0.0032	0.0015	0.0094	н	•	u	**	"	
•	0.0027	0,0016	0,0094	L "	4		•	•	لخس
n	ND	0.0023	0.0094	e.	4	*	4*	•	
ú ,	ND	0.0020	0.0094	•	п	n	,,	U	
•	ND	0.0025	0.0094	n	r				
•	ND	0.0023	0,0094	a	"	Ħ	**	•	
,	ND	0.0018	0.019	ч	•	41		46	
n	ND	0.0019	0,0094	•	•		et e	•	
U	ND	0.0017	0.0094	19	D	ч		**	
U	ND.	0.0019	0.0094	-		•		-	
	• • •	_							
								" d	
						n n			
		10270		30	- 133 70				
٠	Wat	ter		Samp	oled: 09/02	/09 14:30			
8270C STD	0.0074	0,0034	0.0094	ug/L	lx	49936	09/09/09 16:54	09/12/09 0D:42	
a	0.0048	0.0028	0.012	•1	H	,	-	•	
и	0.9033	0.0011	0.0094	<b>(</b> "	4	1)	*	a	بلر المر
•	0.0016	0.0010	0.0094		*	•	*	*	
O .	ND	0.00094	0.0094	41	*		•	*	
n	0.0020	0.0011	0.0094		'n	и	)1	P	
in ,	0.0020	0.0011	0.0094 0.0094	( •	u	н	11	P .	سلحب
n n o				* *	ч Ф П	H H	n n R	p . u	ملمد
n n n	0.0043	0.0010	0.0094	•	11 11 11	11 13 13	)) (1 (1)	р ц и	ملعد
n 11 10 10	0.00083	0,0010 0,00075	0.0094 0.0094	n n	1) 	H H H H	11 11 18 18	P	مان <i>د</i> مانب
0 0 0	0.00083 ND	0.0010 0.00075 0.0015	0.0094 0.0094 0.0094	n n	11 U U U U U U U U U U U U U U U U U U	11 13 14 16	11 12 15 16 16 16	P	مادر مادر
	0.0043 0.00083 ND	0.0010 0.00075 0.0015 q 0014	0.0094 0.0094 0.0094 0.0094	n n	10 11 18 19 19	n n n	14 16 16 16 16 16	•	مل <i>ند</i> سلس
	0.0003 0.00083 ND 0.0070 ND	0.0010 0.00075 0.0015 q 0014 0.0023	0.0094 L 0.0094 0.0094 0.0094 L 0.0094	n n	11 11 11 11 11 11 11 11 11 11 11 11 11	0 0 0 0 0	11 11 12 12 13 14 14 14 14 14 14 14 14 14 14 14 14 14		مل <i>ت</i> مل <i>ت</i>
	0.0043 0.00083 ND 0.0020 ND ND	0,0010 0,00075 0,0015 q 0014 0,0023	0.0094 6 0.0094 0.0094 0.0094 6 0.0094	n n	10 II II II II II II II II II II II II II	0 0 0 0 0 0	11 11 11 11 11 11 11 11 11 11 11 11 11		ىلى سلىب
10 10 10 10 10 10 10 10 10 10 10 10 10 1	0.00033 ND 0.00083 ND 0.0020 ND ND	0.0010 0.00075 0.0015 q no 14 0.0023 0.0020	0.0094 U 0.0094 0.0094 0.0094 0.0094 0.0094	11	ti d m k	11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11		مل <i>د</i> سلب
	8270C STD	### Water   Water    ### ### ### ### ### ### #### #### #	Method         Result         MDL*           Water           8270C STD         0.0062         0.0034           0.0023         0.0028         0.0011           0.0029         0.00094         0.0012           0.0034         0.0011         0.0029           0.0034         0.0011         0.0027           0.0032         0.0015         0.0027           0.0027         0.0016         ND           ND         0.0023         ND           ND         0.0025         ND           ND         0.0028         ND           ND         0.0018         ND           ND         0.0017         ND           ND         0.0017         ND           ND         0.0017         ND           0.0036         88%         85%           85%         10396         10396           Water         0.0028         0.0028           0.0048         0.0028         0.0011           0.0016         0.0010         0.0010	Method         Result         MDL*         MRL           Water           8270C STD         0.0062         0.0034         0.0094           0.0027         0.0011         0.0094         0.012           0.0028         0.0010         0.0094         0.0094           0.0029         0.00094         0.0094         0.0094           0.0034         0.0011         0.0094         0.0094           0.0021         0.0075         0.0094         0.0094           0.0032         0.0015         0.0094         0.0094           0.0027         0.0016         0.0094         0.0094           0.0027         0.016         0.0094         0.0094           0.0028         0.0029         0.0094         0.0094           0.0029         0.0029         0.0094         0.0094           0.0029         0.0029         0.0094         0.0094           0.0029         0.0029         0.0094         0.0094           0.0029         0.0029         0.0029         0.0029           0.0029         0.0029         0.0029         0.0029           0.0029         0.0029         0.0029         0.0029           0.0029	Method   Result   MDL*   MRL   Units	Method   Result   MDL*   MRL   Units   Dil	Method   Result   MDL*   MRL   Units   Dil   Batch	Method         Result         MDL*         MRL         Units         Dil         Batch         Prepared           8270C STD         0.0062         0.0034         0.0094         ug/L         lx         49936         09/09/09 16:54           "         0.0037         0.0034         0.0012         "         "         "         "           "         0.0227         0.0014         0.0094         4         "         "         "         "           "         0.0029         0.0010         0.0094         4         "         "         "         "           "         0.0034         0.0010         0.0094         4         "         "         "           "         0.0034         0.0010         0.0094         4         "         "         "           "         0.0034         0.0011         0.0094         4         "         "         "         "           "         0.0021         0.0095         0.0094         4         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         " <t< td=""><td>  Method   Result   MDL*   MRL   Units   Dil   Batch   Prepared   Analyzed    </td></t<>	Method   Result   MDL*   MRL   Units   Dil   Batch   Prepared   Analyzed

TestAmerica Spokane

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Randee Decker, Project Manager

Page 14 of 42



SPOKANE, WA

11922 E. 1ST AVENUE 5POKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc. Avery Landing Project Name:

18300 NE Union Hill Rd. Suite 200 073-93312-03 Project Number: Redmond, WA 98077

Project Manager: Doug Morell

Report Created: 10/28/09 16:33

## Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10028-03 (G-GA4-090209)		w	ater		San	pled: 09/	02/09 14:30			
Dibenz(a,h)anthracene	8270C STD	ND	0.0017	0.0094	սց/Լ	1 <b>x</b>	49936	09/09/09 16:54	09/12/09 00:42	
Benzo[g,h,i]perylene	•	ND	0,0019	0.0094	٠		*		45	
Surrogate(s): Nitrobenzene-d5			94%		41	1-110%	#		e	
2-Fluorobiphenyl			86%			1-110%	*		<i>t</i> .	
Terphenyl-d14			99%		51	1- 135 %	"		н	
SSI0028-04 (G-DW01-090209)		w	ater		Sam	pled: 09/0	02/09 18:50			
Naphthalene	8270C STD	ND.	0.0034	0,0094	ug/L	1x	49936	09/09/09 16:54	09/12/09 01:02	
2-Methylnaphthalene	μ	ND	0,0028	0.012	*	•	п		#	
I-Methylnaphthalene	•	0.0016	0,0011	0.0094	L "		u	**	н	كالملسد
Acenaphthylene	m .	ND	0.9010	0.0094		•	и	*	br .	-
Acenaphthene	a	0.0011	0.00094	0.0094	je	4		**	pi	Į.
Fluorene		0.0012	0.0011	0.0094	p	•	n	41	и	1
Phenanthrene	41	0.4020	0.0010	6.0094	L "	•	".		и	واستخد
Anthracene	11	0.0016	0.00075	0.0094	n	H	•	μ	п	.1
Fluoranthene	и .	ND	0.0015	0.0094		H			* .	
Pyrene	н	ND	0,0016	0.0094		•	Þ		4	
Benzo[a]anthracene	ii.	ND	0,0023	0.0094		•	P	4	u	
Chrysene	я	ND	0.0020	0.0094		•		4		
Benzo[b]Nuoranthene	и	ND	0.0025	0.0094	и	"	•	a	•	
Benzo[k]fluoranthene	<b>24</b>	ND	0.0023	0.0094	le .		•	84	•)	
Benzo[a]pyrene	•	ND	0.0018	0.019			•	•	н	
Indeno[1,2,3-ed]pyrene	*	ND	0.0019	0.0094	n	*	4	-	•н	
Dibenz(a,h)anthracene		ND	0.0017	0,0094	•		u	**	ч	
Benzo[g,h.t]pery)ene	-	ND	0.0019	0,0094	"	*	4	u	Ħ	
Surrogata(s): Nitrohenzene-d5			95%		40	- 110%	H			
2-Fluorohiphenyl			83%		50	- 110%	"		u	
Terphenyl-d14			98%		50	- 135 %	"		н	
SS10028-05 (G-GA3-090309)		Wa	ter		Sam	oled: 09/0	3/09 09:40			
laphthalene	8270C STD	0.040	0.0034	0,0094	ug/L	lx	49936	09/09/09 16:54	09/12/09 01:2(	
-Methylmaphthalene	•	0.020	0,0028	0.012	4	H	η	d		
-Methylnaphthalene	r.	0.021	0.0011	0.0094	٠.	11		н	H	سهسر
cenaphthylene	b	0.0050	0,0010	0.0094	4	D	•	u	-	J
Accuaphthene	,,	0.025	0,00094	0.0094	**		•	•	,	
luorene	v	0.019	0.0011	0.0094	41'	•	*1	•	•	
henanthrene		0.020	0.0010	D,0094		н	*1	.* (	<del></del>	سللسر

TestAmerica Spokane

The results in this report apply to the stumples analyzed in accordance with the chain of custody document. This unalytical report most be reproduced in its outery.



Method

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Analyzed

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

(G-GA3-090309)

Redmond, WA 98077

Analyte

SS10028-05

Project Name:

Avery Landing

Dil

Sampled: 09/03/09 09:40

Bateli

Prepared

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/28/09 16:33

Notes

## Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

MDL*

Water

Result

MRL

Units

Fluoranthene	8270C STD	0.0087	0.0015	0.0094	սց/Լ	lх	49936	09/09/09 16:54	09/12/09 01:21	J
Pyrene	chat-	0.0097 UL	0.0016	0,0094	<del>L</del>	-Mex		n	т н	
Benzo[a]anthracene	" DIE	ND	0.0023	0.0094	•		5 "			
Clurysene	(1)	ИĎ	0,0020	0.0094		0	"		"	
Benzo[b]fluoranthene	•	ND	0.0025	0.0094			"	u	· u	
Benzo[k]fluoranthene	4	ИD	0,0023	0.0094	+1	н	đ	н	н	
Велго[а]ругеве	•	αи	0.0018	0.019	•		•	•		
Indeno[1,2,3-cd]pyrene	u	NĎ	0.0019	0.0094	•	• .	a			
Dibenz(a,h)amhracene	ii .	ND	0,0017	0.0094	•	*	a	4 '	H	
Benzo[g,h,i]perylene	ii	ND	0.0019	0.0094	**	•		•	-	
Surrogate(s): Nitrobenzene-d5			79%			40 - 110 %	"	•	#	
2-Fluorobiphenyl			89%			50 - 110 %	#		u	
Terphenyl-d14		1	04%			50 - 135 %	"			
SSI0028-06 (G-GA3D-090309)		Wate	:r		Sa	ampled: 09/	/03/09 <b>09:</b> 50			
Naphthalene	8270C STD	0.038	0,003-1	0,0094	ug/L	٠ ا ١	49936	09/09/09 16:54	09/12/09 01:41	<del></del>
2-Methylnuphthalene	ìı	0.019	0.0028	0.012	4	п	u	•1	•	
I-Methylnaphthalene	ıı.	0.020	0.0011	0,0094	•	D	P	<b>P</b> I	•	سسيلس
Acenaphthylene	п	0.0048	0.0010	0.0094	9			4)	•	.i
Acenaplithene	» ·	0.025	0,00094	0.0094	•	u u	u	•	*	
Fluorene	11	0.017	0.0011	0,0094			*	"	•	
Phennuthrene	u	0.019 👢	0.0010	0.0094	. "	4	•			K-45
Anthracene	44	ND	0.00075	0.0094	**		•		14	٠
Fluoranthene	u	0,0049	0.0015	0.0094	*			ń	ч	j
Pyrene	a	0.0041	0,0016	0.0094	U.	-	•		h	مستاجلد
Benzo[a]anthracene	<b>#</b> I	ND	0,0023	0,0094	"	*	41	10	B	
Chrysene	4	ND	0.0020	0.0094		. "			• .	
Benzo[b]fluoranthene	4	ND	0.0025	0.0094	v	•	e e	4	le	
Benzo[k]fluoranthene	41	NĎ	0.0023	0.0094	U	a	v	n	)e	
Benzo(a)pyrene		ND	0.0018	0.019		4	v	u	19	
Indeno[1,2,3-cd]pyrene	**	ND	0.0019	0,0094	n	n	"	n	н	
Dibenz(a.h)anthracene		ND	0.0017	0,0094	P	. 10	. "		**	
Benzo(g,h,i)perylene	4	ND	0.0019	0.0094	ń	•	ii ii	*	ч ,	•
Surrogate(s): Nitrobenzene-d5			7%		—	40-110%	"		"	
2-Fluorobiphenyl		å	80%			50 - 110 %	"		u	
Terphenyl-d14		,,	75%			50 - 135 %	*			

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of ensured document. This analytical report must be reproduced in its entirety.





Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 (ax: (509) 924.9290

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Report Created:

Project Manager:

Doug Morell

10/28/09 16:33

## Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dii	Batch	Prepared	Analyzed	Notes
SSI0028-07 (G-MW5-090309)		w	ater		Sam	pled: 09/	03/09 12:00			
Naphthalene	8270C STD	0.22	0.0034	0.0095	ug/L	lx	49936	09/09/09 16:54	09/12/09 02:00	
2-Methylnaphthalene	tt	0.094	0,0029	0.012	4	n	u	•	*1	
1-Methylnaphthalene		1.1	0,0011	0.0095		•	n	•	a	أسم
Accomplishylene	11	0.081	0.0010	0.0095	n	n	"	•	••	•
Acenaphthene	0	0.50	0.00095	0.0095			"	41	4	
Fluorene	u	0.47	0.0011	0.0095		-	н	u		
Phenanthrene	а	0.14	0.0070	0.0095	*1	н	4	· •	•	/
Anthracene	μ	0.088	0.00076	0.0095	11	•;	•	·	-	
Fluoranthene	•	0.023	0.0015	0.0095	•	**	n	н	#	
Pyrene	*	0.064	0.0016	0.0095	•	•	'n	41		1
Benzo a anthraceue	*	0.0081	0.0023	0.0095	n	•	11	•;	*	` :
Chrysene	7	0.011	0.0020	0.0095	n	*		*1	•	
Benzo[b]fluoranthene	u	ND	0.0025	0,0095			u	4	*	
Benzo[k]fluoranthene	п	ND	0.0023	0.0095	rt	-	u	N	•	
Benzo[s]pyrene	u	ND	0.0018	0,019	•1		u	•	er .	
Inteno[1,2,3-ed]pyrene	В	ND	0.0019	0.8095		•		•	•1	
Dibenz(a,h)anthracene	4	ND	0.0017	0,0095						
Benzo[g,h,i]perylene	N	0.0021	0.0019	0.0095	lP				*	,
		010027								
Surrogate(s): Nitrobenzene-dS			92%			- 110%	"			
2-Fluorobiphenyl			64%			- 110%			a	
Terphenyl-d14			91%		50	- 135%	,,	-	"	

TestAmerica Spokane

The results in this report upply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Moreli

Report Created; 10/28/09 16:33

#### Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

			TestAme	erica Spo	окапе			<del></del>		<del></del> :_
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
SS10028-01 (G-MW11FP-090109	))	· Ot	her (L)		Sam	pled: 09/	01/09 17:10			
Diesel Range Hydrocarbous	NWTPH-Dx	202000		4000	mg/kg wet	lx	9090043	09/08/09 18:28	09/13/09 17:47	
Heavy Oil Range Hydrocarbons		321000		10000						
Surrogate(s): 2-FBP			111%			7 - 150%	#		47	
p-Terphenyl-d14			108%		51	7 - 150 %	Ħ			
SS10028-02 (G-GA2-090209)		W	ater		Sam	pled: 09/	02/09 12:15			
Diesel Range Hydrocarbons	NWTPI1-Dx	ND		0.243	mg/i	1x	9090077	09/11/09 08:00	09/13/09  9:47	
Heavy Oil Range Hydrocarbons	III	ND	_	0.485	• 1	*	ŧ	т.	t.	c
Surrogate(s): 2-FBP		-	79.0%		51.	) - 150 %				
p-Terphenyl-d14			94.6%		50	- 150 %	ır		u	
SS10028-03 (G-GA4-090209)		Wi	iter		Sam	pled: 09/	02/09 14:30			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0.243	mg/l	١x	9090077	09/11/09 08:00	09/13/09 20:12	
Heavy Oil Range Hydrocarbons	п	ND		0.485		н .			#1	С
Surrogate(s): 2-FBP			79.7%	—	50	- 150%	u		"	
p-Terphenyl-d14			93.7%		50	- 150%	v		er .	
SS10028-04 (G-DW01-090209)		Wa	iter		Sam	pled: 09/0	2/09 18:50			
Diesel Range Hydrocarbons	NWTPH-Ds	ND		U.243	mg/l	lx	9090077	09/11/09 08:00	09/13/09 20:36	
Heavy Oil Range Hydrocarbons	4 .	ND		0.485		ų ·	ь		";	C
Surrogate(s): 2-FBP			78.8%		50	- 150%	"		er	
p-Terphenyl-d14			93.4%		50	- 150 %			#	
S\$10028-05 (G-GA3-090309)	· .	Wa	ter		Sam	pled: 09/0	3/09 09:40			
Diesel Range Hydrocarbons	NWTPH-D _X	םא		0,243	mg/l	lx .	9090077	09/11/09 08:00	09/13/09 21:00	
Heavy Oil Range Flydrocarbons	в .	ND		0.485	**	. •		4	ır	С
Surrogaie(s): 2-FBP			74.1%		50	- 150%	, , , , , ,	,		
p-Terphenyi-d14			90.6%		50	- 150%	tt		H	
SS10028-06 (G-GA3D-090309)		Wa	ter		Sam	pled: 09/0	3/09 09:50			
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-111-	0,250	l\yaı	lx	9090077	09/11/09 08:00	09/13/09 21:24	
Heavy Oil Range Hydrocarbons	M	ND		0.500		,			(+	r
Surroguie(s): 2-FBP			79.9%		50	- 150 %	y		"	
p-Terphenyl-d14		,	96.8%		50	- 150%	n .		"	

TestAmerica Spokane
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The results in this report apply to the samples analyzed in accordance with the claim of custody document. This analytical report must be repealaced in its entirety





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/28/09 16:33

## Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10028-07 (G-MW5-090309)		Wı	iter		Sam	pled: 09/	03/09 12:00			
Diesel Range Hydrocarbons	NWTPH-Dx	0.484		0.312	mg/l	ix	9090094	09/15/09 07:58	09/16/09 23:44	<del>.</del>
Heavy Oil Range Hydrocarbons		0.713		0,625			•		н	
Surrogate(s); 2-FBP			85.6%		50	- 150%				
p-Terphenyl-d14			103%		50	- 150 %	U		н	

TestAmerica Spokane

Randee Decker, Project Manager

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## ecology and environment, inc.

International Specialists in the Environment
720 Third Avenue, Suite 1700, Seattle, V

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 12, 2010

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of 38 samples collected from the Avery Landing site in Avery, Idaho, was performed by Golder Associates, Inc., Redmond, Washington. The validation was performed in accordance with the Tier III and IV Data Validation Summary Checklist (attached). Target analyte list (TAL) metals (EPA Methods 6010, 6020, and 7470), polychlorinated biphenyl (PCB; EPA Method 8082), diesel-range total petroleum hydrocarbons (Method NWTPH-Dx), and semivolatile organic compounds (SVOCs; EPA Method 8270-SIM) analyses were performed by Test America, Spokane Valley, Washington.

## The samples were numbered:

		·
G-HC1R-090409	G-EW3-090409	G-EW4-090409
G-EMW04-090409	G-GA1-090509	G-EMW05-090509
G-EMW06-090509	G-EB-090509	G-RS1SW-090609
G-RS2SW-090609	G-RS3SW-090609	G-RS3DSW-090609
G-RS4SW-090609	G-RS5SW-090609	G-RS6SW-090609
G-RS7SW-090609	G-RS8SW-090609	G-P101OFP-090409
G-RS5FP-090509	G-RS4FP-090509	G-RS3FP-090509
G-RS3AFP-090509	G-EMW06-090509	G-EB-090509
G-RS1SW-090609	G-RS2SW-090609	G-RS3SW-090609
G-RS3DSW-090609	G-RS4SW-090609	G-RS5SW-090609
G-RS6SW-090609	G-RS7SW-090609	G-RS8SW-090609
G-P1010FP-090409	G-RS5FP-090509	G-RS4FP-090509
G-RS3FP-090509	G-RS3AFP-090509	

See the attached Checklists and associated data results pages provided by Golder Associates for qualified sample results.

GOLDER PROJECT #: 073-93312.0	)5	S	TE: Avery l	Landing/ PO	TLATCH /	Idaho				
LABORATORY: Test America		SI	SDG: SSI0032							
SAMPLES	Collect				MATRIX					
G-PIOLOFP	09-04	-na		1 4	JAPL					
G-RSSFP	9-05		<del>-</del>	<u>—————————————————————————————————————</u>	I					
A-DOUED	-1-0-5				<del></del>					
C-003ED	<del>- 1</del>				(					
G-RS3aFD	<del></del>	····	·		4					
	A1	(3-RS4	5.1 \Ja	tal . W	SATER	·				
G-HOR G-G	EB			action	1					
				BOSION		<del></del>				
	<u> </u>		SW > A	letais_	-					
	<u> </u>		Zw (	<u> </u>	<del></del>	<del></del>				
	<u>335W</u>	A A S	SM)	<u></u> *						
G-EMWOG G-R	5302M				<u> </u>					
* Data package 164	74 has D DATA ASSES	issolv fr Sment su	action to MMARY	w-these s	amples.	t				
REVIEW ITEM	ICP/ AES	ICP/ MS	Hg/ Se	CN	Anions	OTHER				
	6010	6020	7074							
Data Completeness					· · · · · · · · · · · · · · · · · · ·					
2. Holding Times					t					
3. Calibration		<b></b>	<del></del>		<del>                                     </del>					
4. Blanks	1 😾									
5. Lab Duplicate, Field Duplicate RPD				<del>                                     </del>						
6. LCS, Blank Spike, MFS			<del></del>	<u> </u>						
7. Matrix Spike, MSD										
8. GFAA, MSA, Serial Dil.										
9. Detection Limits, Other QC		<b></b>								
10. Data Verification,					1					
Overall Summary										
O = Data had no problems  X = Data qualified due to minor problems [typi	O = Problems,		ct data							
M = Data qualified due to major problems [typic	ally more than 5		I/UJ).	0		•				
Z = Data unacceptable [typically data rejected (I	₹).		M €1	mkof						
- · · · · · · · · · · · · · · · · · · ·	<u>محت</u> ۸	1. 1.	0			_ 1				
Comments/Qualified Results: 1 W	g 7 (l c	detect	WIN L	UAPL ass	ec. Sam	biez.				
					· · · · · · · · · · · · · · · · · · ·	<u></u>				
			<u> </u>							
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	<del></del>		<del></del>							
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	<del>-)</del>		· . · · ·							
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Validated by:	12/1		Date	ا در دام .	1 700	•				
Reviewed by:	<del>(")"/"</del>	<del></del>	Date		1 1 steel	<del>-</del>				

## Acceptable: YES 1. Date Package Completeness (Check if present). Case narrative ✓ Instrument Det. Limits / Acceptable Chain of Custody CP Correction Factors x Absent **V**ICP Linear Ranges Not required for ∡\$ample Results Requested Lower MRL on 1-12-10. √ICV/CCV Results Blank Results Analysis Run Logs ICP Interference Check Results CP Raw Data Spike Recovery Results GFAA Raw Data ☑Duplicate Results **∠**Hg Raw Data LCS Results Cyanide Raw Data Standard Addition Results Other ✓ CP Serial Dilution Comments/Qualified Results: Holding Times (Check all that apply). ICP/GFAA metals completed in <6 months from collection __Mercury analyzed in <28 days from collection __Cyanide completed in 14 days from collection See H. Time Summary attached. Comments/Qualified Results: 3. Calibrations (Check all that apply).... ICV/CCV %R for ICP/AA, 90%-110%, acceptable ICV/CCV %R for Hg, 65%-79% or 121%-135%, _ICV/CCV %R for ICP/AA, 75%-89% or 111%-125%, resuits estimated (J/UJ) results estimated (J/UJ) ICV/CCV %R 85-115% for Cyanide, results _ICV/CCV %R for ICP/AA, <75% or >125%, reject acceptable ICV/CCV %R 70-84% or 116-130%, results positive results (R) IGV/CCV %R 80-120% for Hg, results accepted estimated (J/UJ) CRDL Check Stnd %R 70 - 130, (50-150 SbPbTl) _ICV/CCV %R <70% or >130%, reject pos results (R) 621

## METALS & INORGANIC / Tier I & II Data Validation Summary Checklist Acceptable: YES 4. Blanks (Check all that apply)...... Detects reported in ICB/CCB list: Detects in preparation blanks, list: Mg . TU __Detects in field blanks, list Qualified as undetected (U) all sample concentrations ≤10X any associated blank concentrations and less than the PQL, or J+ for samples greater than the PQL. Comments/Qualified Results: 5. Duplicates (Check all that apply)...... ✓ Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X CRDL Duplicate range is within ±CRDL (±2X CRDL for soils) for results <5X CRDL Field Duplicate ID Comments/Qualified Results 6. Laboratory Control Samples, Blank Spikes (Check all that apply)... ✓LCS %R 80-120%, [50-150% for Ag, Sb] LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <IDL estimated (UJ) LCS %R <50% and all results rejected (R/UR)

# 7. Spike Recovery (Check all that apply)...... Spike %R with 75-125% __Spike %R <30%, results <IDL rejected (UR) Spike %R 30-74%, >125%, results > IDL est. (J) Field blanks used for spike analysis Post digest spk rqrd; %R 75-125%, excpt Ag Spike %R 30-74% results <IDL estimated (UJ) Comments/Qualified Results: 8. GFAA Performance, MSA, or Serial Dilutions..... Duplicate injection RSD <20% ____Duplicate injection RSD >20% ____Duplicate injection RSD >20%, results > CRDL estimated (J) Analytical spike %R 85-115% __Analytical spike %R 40-85%, results > IDL estimated (J) _Analytical spike %R 10-40%, results <IDL estimated (UJ) Analytical spike %R <10%, results <IDL rejected (R) Comments/Qualified Results: 6010 WATER 9. Detection Limits, Other QC..... Comments/Qualified Results:__ 10. Data Verification and Overall Assessment..... Comments/Qualified Results:



11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077 Project Manager:

Doug Morell

10/28/09 11:16

# Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

41-4-		Method	W		enca rac	Units	D.II	Batala	December	Analyzed	Blades
Analyte	40 77047 00045	Method	Result	MDL*	MRL		Dil	Batch	Prepared	Ansiyzed	Notes
SS10032-01	(G-HC1R-090409)		W	/ater			<del></del>	4/09 09:00			
Arsenic		6020 Total Recoverable	ND	0.00024	0.0020	mg/L	žх	50495	09/18/09 11:30	09/21/09 09:32	
Cadmium	•	•	ND	0.00014	0,0020		u	н	н	• ,	
Lead .		•	, ND	0.00017	0,0020	n	ш			**	
Antimony		ħ	0.0014	0,00040	0,0020	н	H	"	•	*	
Chromium		#	0.00052	0.00037	0,0020	•	u	•	h	*	
Nickel	•		0.00044	0.00022	0.0020		*	ħ	r	•	
Barium		•	0.0081	0.00027	6,0060		*	•	*	•	
Cobalt			ND	0.00016	0,0020		•	4	*	•	
Selenium	•	₩.	ND	0.00034	0.0020	Ħ	•		*	•	
Beryllium		41	ND	0.00026	0.0020	. "	•	W	*	• .	
Copper		•	0.00082	0.00015	0.0050	•	•	•	•	•	
Silver		•	ND	0.00015	0.0020	•	•	. •	•		
Thallium		•	ND	0,000060	0,0040		*		•	•	
Vanadium			ND	0.00023	0,0020	•	#		•		
Zinc	·	ч	ND	0.0020	0.0070	٠	4		*	•	
SS10032-02	(G-EW3-090409)		w	ater		Sam	pled: 09/0	4/09 11:20			
Arsenic		6020 Total Recoverable	0.037	0.00024	0.0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 09:37	
Cadmium		•	ND	0,00014	0.0020		•		7		
Lead			ND	0.00017	0.0020		•	'n	ь		
Antimony		н	0.00095	0.00040	0,0020		. *	η.	. •	•	
Chromium		н :	ND	0.00037	0.0020	•		•	*	M	
Nickel	v.	**	0.0014	0.00022	0,0020	•		н			
Barium		•	0.097	0.00027	0,0060	•		•	•	•	
Cobalt	•	•	0,0011	0.00016	0,0020	•	•	•	-	n	
Selenium			ND	0.00034	0,0020	w,				W	
Beryllium		н	ND	0.00026	0.0020	•	н	h	. *	M	
Copper			0.00083	0,00015	0.0050	. •		W	•		
Silver		<b>h</b>	ND	0.00015	0.0020	•	,	*		*	
Challium		•	ND	0.000060	0.0040			Ħ	<b>a</b> .	*	
Vanadium		h	ND	0.00023	0.0020	#	*	Ħ	•	•	
Zinc			ND	0.0020	0,0070			н		, ¶	

TestAmerica Spokane

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077 Pro

Project Manager: Doug Morell

10/28/09 11:16

## Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte	,	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
SSI0032-03	(G-EW4-090409)		٧	Vater		Sam	pled: 09/0	04/09 13:20				
Arsonic		6020 Total Recoverable	ND	0.00024	0,0020	mg/L	5x	50495	09/18/09 11;30	09/21/09 09:42		
Cadmium			ND	0.00014	0.0020	•		. н	н .	H		
Lead		*	ND	0.00017	0.0020	h	•		•	11		
Antimony		•	0.00074	0.00040	0.0020	*	•	*	•	•		
Chromium	•	*	· ND	0.00037	0.0020			*		•		
Nickel		•	0.0012	0.00022	0,0020				•	•		J
Barium	•		0.023	0.00027	0,0060		•	H	*			
Cobalt	•	•	0,00045	0.00016	0.0020	•		*	•	H		
Scienium		*	ND	0.00034	0.0020	•	•	4		Ħ		٠
Beryllium			· ND	0.00026	0.0020	*	•	** **	¥	W		
Copper		н	0.00084	0.00015	0.0050	•			• .	•		1
Silver		W	ND	0.00015	0.0020		•	•	•	•		
Thallium	•	•	ND	0.000060	0.0040	•			*	•		
Vanadium		•	ND	0.00023	0.0020	F .		•				
Zinc		•	1.2	0.0020	0,0070	•	*		•	•		
SSI0032-04	(G-EMW04-090409)		W	ater		Samj	oleđ: 09/0	4/09 15:35		,		
Arsenic		6020 Total Recoverable	0.015	0.00024	0,0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 09:47	·	
Cadmium		. •	ND	0.00014	0.0020		•	. 4	•	•		
Lead		•	ND	0.00017	0.0020	*	•					
Antimony			0.00062	0.00040	0.0020	P .		7		•		J
Chromium		*	ND	0.00037	0,0020	*		п		4	•	
Nickel			0.0013	0.00022	0.0020				7	*		1
Barium			0.062	0.00027	0.0060	*	•		*	• .		
Cobalt			0,00060	0.00016	0.0020			•	•	•	•	J
Selenium			ND	0.00034	0,0020	Ħ			н	н		
Beryllium	- C	•	ND	0.00026	0.0020			•	н			
Copper		u .	0.00081	0.00015	0.0050	Ħ		•	*	н		3
Silver	•		ND	0.00015	0,0020		•	•	•			
Thallium		•	ND	0.000060	0.0040				•	u ·		
Vanadium			ND	0.00023	0.0020	P				Ħ		
Zinc		,	ND	0.0020	0.0070		ak .		•	4		

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-S302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell Report Created:

10/28/09 11:16

# Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-06	(G-GA1-090509)		, v	/ater		Samj	pled: 09/	05/09 09:40			
Arsenic		6020 Total Recoverable	0.0063	0,0002-1	0,0020	mg/L	Sx ·	50495	09/18/09 11:30	09/21/09 09:53	
Cadmium			ND	0,00014	0.0020	н	••	•	U	n	
Lead		u	ND	0.00017	0.0020		*	•		и	
Antimony		•	0,00078	0.00040	0,0020	· •	21		w	*	
Chromium		*	מא	0.00037	0.0020	н	н		•	H	
Nickel			0.0020	0.00022	0,0020	**		*	19	"	
Barium		<b>H</b> .	0.094	0.00027	0,0060		<b>t</b> r	*		•	
Cobalt		•	0.0012	0,00016	0.0020		<b>e</b> t	4		14	
Selenium			ND	0.00034	0.0020	п	•	×	н -	*	
Beryllium		, .	ND	0.00026	0.0020	#	•	, 'a		**	
Copper		•	0,0013	0.00015	0.0050	•	•		. •	11	
Silver		•	ND	0.00015	0.0020	•		•	*	#1	٠.
Thallium		d	ND	0.000060	0,0040		4	4	•	19	
Vanadium			ND	0.00023	0,0020	n		H	•	н	
Zinc		<b>d</b> ,	ND	0.0020	0,0070	•	•	н	-	h	
SSI0032-07	(G-EMW05-090509)		W	ater		Samp	ded: 09/0	5/09 11:25			
Arsenic		6020 Total Recoverable	0,052	0.00024	0.0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 09:58	
Cadmium			ND	0.00014	0.0020	•	н	H	•	•	
Lead	•	l ke	ND	0.00017	0.0020				-	*	
Anomony		•	ND	0.00040	0.0020				. •	*	
Chromium	•	•	ND	0.00037	0,0020	•	•	*	-		-
Nickel	•		0.00085	0.00022	0.0020		*		•		
Bariom	,	*	0.057	0.00027	0.0060			•		Mi	•
Cobalt			0.00042	0.00016	0.0020	,	н		*	44	
Selenium		•	ND	0.00034	0,0020		н	•	•	π	
Beryllium			ND	0.00026	0,0020	•		•		**	
Copper			0,90077	0.00015	0.0050			*			
Silver			ND	0.00015	0.0020	•	₩	н		* .	
Challium .	•	•	ND	0.000060	0.0040		٠.			n	
								_	_	_	
Vanadium		•	ND	0.00023	0.0020	-	,	•		. "	

TestAmerica :	Spokane
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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924-9200 (ax: (509) 924-9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager:

Doug Morell

Report Created:

10/28/09 11:16

## Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-08	(G-EMW06-090509)		Ų	Vater		Sam	pled: 09/	05/09 13:25			
Arsenic		6020 Total Recoverable	0.023	0.00024	0,0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 10:03	
Cadmium		*	ND	0.00014	0.0020	•	*	•	•		
Lead		1	ND	0.00017	0.0020			•	, н	*	
Antimony		•	ND	0.00040	0,0020		*	•	7		
Chromium		•	ND	0.00037	0.0020	•	ч	, и	*	M	
Nickel		•	0,00073	0.00022	0,0020	н .		н	н	<b>w</b>	
Barium		Ħ	0.045	0.00027	0,0060	,	•	n		<b>b</b> ,	
Cobalt	,	•	ND	0.00016	0.0020		•	*	u		
Selenium		W	ND	0.00034	0.0020	b	•	•		* .	
Beryllium		*	ND	0.00026	0.0020	μ	tı	u		a '	
Copper		•	0.00064	0.00015	0.0050	ŧ	4	u	*	<b>H</b>	
Silver			ND	0.00015	0.0020	11	"	u	*	π	
Thallium		• .	ND	0.000060	0,0040		• •	"	*	π-	
Vanadium		H	ND	0.00023	0.0020	•	•		•		
Zinc		n	ND	0.0020	0.0070	•	•	•	*	*	
SSI0032-09	(G-EB-090509)		w	ater		Samp	oled: 09/0	5/09 14:00			
Arsenic		6020 Total Recoverable	ND	0. <b>00</b> 024	0.0020	.mg/L	5x	50495	09/18/09 11:30	09/21/09 10:08	
Cadmium		*	ND	0.00014	0.0020	•	•				
Lead		*	ND	0.00017	0,0020	•	•	•	u		
Antimony		•	ND	0.00040	0,0020	• .	. *	•	11	*	
Chromium		•	ND	0.00037	0.0020	•	*	*	n	п .	•
Nickel		п	0.00037	0.00022	0.0020		•	٠	. •	н	
Barium		4 .	ND	0.00027	0,0060	•	•	•	• •	•	
Cobalt		•	ND	0.00016	0,0020		•	•	*	•	
Selenium		N .	ND	0.00034	0,0020	•	•	. *	• '	π	•
Beryllium		н	ND	0.00026	0.0020	• .	*	41		*	
Соррег		π ,	0.00066	0.00015	0.0050		. •	*		*	
Silver		u .	ND	0.00015	0,0020	•	*	*	•		
Challium		*	ND	0.000060	0.0040			H		•	
Vanadium			ND	0.00023	0,0020	Þ	•	*			
Zinc		_	ND	0.0020	0.0070	н	_				

TestAmerica Spokane

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Report Created:

Project Manager: Doug Morell 10/28/09 11:16

### Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Voits	Dil	Batch	Prepared	Analyzed	Notes
SS10032-14	(G-R\$1\$W-090609)		V	Vater		Sam	pled: 09/	06/09 09:45			
Arsenic		6020 Total Recoverable	ND	0.00024	0,0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 10:14	
Cadmium		•	. ND	0.00014	0.0020			•	7	•	
Lead	•	•	ND	0.00017	0.0020	۰	μ	•	**	•	
Antimony			ND	0,00040	0.0020	۳	h	H	v	. •	
Chromium		N	0.00046	0.00037	0,0020	•	v		Ð		
Nickel		u	0.00053	0.00022	0,0020	•	#		u	•	
Barium		# .	0.0079	0,80027	0.0060	*		n	₹		
Cobalt		•	ND	0.00016	0,0020	a	•		H	•	
Selenium	•	•	ND .	0.00034	0.0020		•	н	•		
Beryllium		•	ND	0.00026	0,0020			п	и		
Copper			0.00075	0.00015	0.0050	-	*	Ü	u	н	
Silver		11	ND	0.00015	0,0020	•	•	u	п	n	
Thallium		, <b>u</b>	ND	0.000060	0,0040		· #		п	π	
Vanadium			0.00028	0.00023	0.0020		*	•	•	4	
Zinc			ND	0.0020	0.0070	*	•		**	•	
SSI0032-15	(G-RS2SW-090609)		w	ater		Samj	pled: 09/0	16/09 10:45			
Arsenic		6020 Total Recoverable	ND	0.00024	0,0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 10:19	
Cadmium		н	ND	0,00014	0,0020	•			•	и	
Lead			ND	0.00017	0.0020	-	•		•	u .	
Antimony		41	ND	0.00040	0.0020	**	•		•	н	
Chromium	•	, in	ND	0.00037	0.0020	4				u .	
Nickel	• •		0.00052	0.00022	0.0020	-	•	•	•	· u	
Barium		•	0.0081	0.00027	0,0060	*				'n	
Cobalt		*	ND	0.000/6	0.0020	•	•	b	w	Ħ	
		**		0.00016 0.00034	0.0020 0.0020		·	»		# #	
Selenium		27 47 84	ND			*		b W	*	11 11	
Selenium Beryllium		27 61 14 15	ND ND	0,00034	0.0020	** **	* *	19 19 19 19	n n n	# # #	
Selenium Beryllium Copper		* * * * * * * * * * * * * * * * * * *	ND ND ND	0.00034	0.0020 0.0020	# P TI	# # # # # # # # # # # # # # # # # # #	10 10 10 10 10 41		" " " "	
Selenium Beryllium Copper Silver		# # # # # # # # # # # # # # # # # # #	ND ND ND 0.00090	0,00034 0.00026 0.00015	0.0020 0.0020 0.0050	е е я п	н н т т	10 10 10 10 11	• • • •	•	
Cobalt Selenium Beryllium Copper Silver Thallium Vanadium		77 Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	ND ND ND 0.00090 ND	0.00034 0.00026 0.00015 0.00015	0.0020 0.0020 0.0050 0.0020	е е ч ч ч	# # # # # # # # # # # # # # # # # # #	10 10 10 10 10 10 10 10 10 10 10 10 10 1		*	

TestAmerica Spokane

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 11:16

## Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-16	(G-RS3SW-090609)		W	Vater		Sam	pled: 09/(	16/09 12:00			
Arsenic		6020 Total Recoverable	ND	0.00024	0,0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 10:35	
Cadmium			ND	0.00014	0,0020	u	*	*	•	и	
Lead		•	ND	0.00017	0.0020	*	*	h	•	u	
Antimony		•	ND	0.00040	0.0020	* .	•	**	•	•	
Chromium		.*	ND	0.00037	0,0020	п	•	•	*	k	
Nickel		•	0,00046	0,08022	0,0020	•	U	•	•	N	
Barium		Ħ	0.0072	0,08027	0,0060		В	W	н	¥	
Cobalt		*	ND	0.00016	0.0020	•	•		**	•	
Selenium		₩	ND	0.00034	0.0020	•	•		**		
Beryllium			ND	0.00026	0,0020	•	•		•	•	
Copper		ĸ	0.00074	0.00075	0,0050	٠	•	•	п	•	
Silver		M	ND	0.00015	0,0020	4		•	•	•	
Thallium .		W	ND	0,000060	0,0040	н	w	· •	•	H	
Vanadium		н	ND	0.00023	0,0020	•	•		•	•	
Zinc		<b>ਸ</b>	ND	0.0020	0,0070	μ	*	*	•	N	
SSI0032-17	(G-RS3DSW-090609)		w	ater .		Samj	pled: 09/0	6/09 11:40			
Arsenic		6020 Total Recoverable	ND	0.00024	0.0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 10:40	
Cadmium		ĸ	ND	0.00014	0.0020		*		н	b	
Lead		•	ND	0.00017	0.0020	**			*	н	
Antimony		· *	ND	0.00040	0.0020		*	п	•	н	
Chromium		•	ND	0.00037	0.0020		*	Ħ	•	*	
Vickel		•	0.00043	0,000,22	0,0020	•	•	**			,
Bariom		•	0.0077	0.00027	0,0060	*	-		n		
Cobalt		•	ND	0.00016	0.0020		-		•	W	
elenium			ND	0.00034	0,0020			ŧr		u	
Beryllium		*	ND	0.00026	0.0020				•	11	
opper		•	0.00075	0.00015	0,0050	h		•	•	π.	
ilver		•	ND	0.00015	0.0020	•	•		٠	H	
114-01	-			0.000060	0,0040			-			
		. •	ND	0.000000	U, UUUNU						
fhallium Vanadium		. "	ND ND	0.00033	0,0020			-	*		

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

**Avery Landing** 

Project Number. Project Manager:

Project Name:

073-93312-03 Doug Morell

Report Created:

10/28/09 11:16

### Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-19	(G-RS4SW-090609)		W	ater		Sam	pled: 09/0	6/09 13:30		_	
Arsenic		6020 Total Recoverable	ND	0.00024	0.0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 10:45	
Cadmium		•	ND	0.00014	0.0020	u	•		*	•	
Lead		•	ND	0.00017	0,0020		*	u	#	ø	
Antimony			ND	0.00040	0.0020	•		и	<b>.</b>		
Chromium		п	0.00044	0.00037	0,0020		•	h ·	н	•	J
Nickel		*	0.00038	8.00022	0,0020		•	H	и	*	J
Barium		*	0.0079	0.00027	0.0060	**	*	ĸ	ď	*	
Cobalt		•	ND	0.00016	0.0020	•	•	*	•		
Selenium		•	ND	0.00034	0.0020		•	и ,	*	,	
Beryllium			ND	0.00026	0.0020	4	4		*		
Copper		в	0.00078	0.00015	0.0050	=		H	ñ	h	J
Silver	·	u	ND	0.00015	0.0020		-	Ÿ.	*	н	
Thallium		•	0.00014	0.000060	0,0040		•	. "			J
· Vanadium		*	ND	0.00023	0.0020				47	•	
Zinc		ų	ND	0.0020	0.0070	'n	٠	п	•	•	
SSI0032-20	(G-RS5SW-090609)	·	w	ater		Sam	pled: 09/0	6/09 14:00			
Arsenic		6020 Total Recoverable	0.00052	0.00024	0.0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 [0:5]	J
Cadminm	•	h	ND	0.00014	0.0020	*	*	и	• .		
Lead		#	ND	0.00017	0,0020		•	•	n	•	
Antimony		47	ND	0.00040	0.0020	w	•	n	п	•	
Chromium	•	<b>tr</b> i	ND	0.00037	0,0020			•	•		
Nickel			0,00058	0.00022	0,0020			*	•	n	J
Barium		•	0.013	0.00027	0.0060		•	*	•		
Cobalt		<b>4</b>	ND	0.00016	0.0020		•	. •	и		-
Selenium		•	ND	0.00034	0,0020	-	• "				
Beryllium		¥	NID	0.00026	0.0020	4	•	#		h	
Copper		4	0.00080	0.00015	0,0050		*	11		, "	J
Silver		•	ND	0,00015	0.0020		•	**	9		
Thallium		н .	ND	0.000060	0.0040		• -	n	*		
Vanadium		H	ND	0.00023	0.0020	4	*	ā	•	н	
Zinc		in .	ND	0.0020	0.0070	*	*	. 4		H	

TestAmerica Spokane

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Carden Jos Randee Decker, Project Manager





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 11:16

### Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

				TestAme	erica Tac	oma					
Analyte	•	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-21	(G-RS6SW-090609)		W	ater		Sam	pled: 09/(	6/09 14:50			
Arsenic		6020 Total Recoverable	0.0011	0.00024	0.0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 10:56	
Cadminm		•	ND	0.00014	0.0020	•			N	•	
Lead		n	ND	0.00017	0.0020		•	н	*	•	
Antimony		п	ND	0.00040	0.0020	•	•		•	H	
Chromium		я	0.00038	0.00037	0,0020	•	•	*			
Nickel		n	0.00046	0.00022	0.0020	•	*	•	μ		
Barium			0,0080	0.00027	0,0060		•		•	•	
Cobalt	•	•	ND	0.00016	0,0020	*	*	n	•	u	
Scienium			ND	0.00034	0,0020	•	*	h	þ	•	
Beryllium		•	ND	0.00026	0.0020	,	•	н	F	•	
Copper		•	0.00084	0.00015	0.0050		*	ų		**	
Silver			ND	0.00015	0.0020		•	It	n n	4	
Thallium		•	ND	0.000060	0,0040	*	•	þ	н	**	
Vanadium			ND	0.00023	0.0020	п	•	μ	и .	п	
Zinc		* .	ND	0.0020	0,0070	4	• #	¥	и	4	
SSI0032-22	(G-RS7SW-090609)		W	ater		Sam	p <b>led: 0</b> 9/0	6/09 15:20			
Arsenic		6020 Total Recoverable	ND	0.00024	0,0020	mg/L	5x	50495	09/18/09 11:30	09/21/09 08:39	
Cadmium		R	ND	0,00014	0,0020	v	4		•	· •	
Lead	•		ND	0.00017	0,0020		n		•	9	
Antimony			ND .	0.00040	0,0020	77	•		•	. •	
Chromium	÷		0.00042	0.00037	0.0020	*	*		и	*	
Nickel			0.00047	0.00022	0,0020	•	•		'n	**	
Barium	•	U	0.0076	0.00027	0.0060	# 1	15	-	и	*	
Cobalt		•	ND	0.00016	0.0020	я	#:				
Sclonium			ND	0.00034	0,0020	•	#	. •	•	н .	
Beryllium			ND	0.00026	0,0020			•	•	•	
Copper	•		0.00076	0.00015	0.0050	•	•	H			
Silver		*	ND	0.00015	0.0020	**	•	-	h		
Thallium		**	ND	0.000060	0.0040	*	•		•		
Vanadinm		н	ND	0.00023	0.0020	•		*	n	at the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of th	
			IND	0.00225	0.0020						

TestAmerica Spokane

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Project Name:

Avery Landing

Project Number.

073-93312-03

Project Manager: Doug Morell

Report Created:

10/28/09 11:16

## Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-23	(G-RS8SW-090609)		W	ater		Samj	oled: 09/0	06/09 16:25	-		
Arsenic		6020 Tota! Recoverable	ND	0.00024	0.0020	mg/L	5х	50495	09/18/09 11:30	09/21/09 11:01	
Cadmium		•	ND	0.00014	0.0020		*	*	*		
Lead	•	•	ND	0.00017	0.0020	•	•	Ħ	•		
Antimony		н	ND	0.00040	0.0020	•	*	h	•	н	
Chromium		•	0.00051	0.00037	0,0020	*	Đ	п	•	h	
Vickel		•	0.00039	0.00022	0,0020	ĸ	#	•	۳		
Barium			0.0072	0.00027	0,0060	п	#	•	*	Þ	
Cobalt		ч	ND	0.00016	0.0020	н	•	•	•	•	
Selenium		π,	ND	0.00034	0,0020		•			•	
Beryllium		₩	ND	0.00026	0,0020	h	•	• .		•	1
Copper		н	0.00077	0.00015	0.0050		*	•	•	•	
Silver		•	ND	0.00015	0.0020	н .	•	4	-		
Thallium		Ň	ND	0.000060	0,0040	u u	н	•	W		
Vanadium		H	, ND	0.00023	0.0020	n	•	٠.,	•	. •	
Zinc			ND	0.0020	0.0070	•		u	•		

TestAmerica Spokane

Randee Decker, Project Manager

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SPOKANE, WA

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Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/28/09 11:16

### Metals (ICP) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-01	(G-HC1R-090409)		w	ater		Şam	pied: 09/	04/09 09:00			
Alaminum		6010B Total Recoverable	ND	0.31	0.50	mg/L	1x	50495	09/18/09 11:30	09/21/09 12:34	
Sadium		•	1.1	0.18	2.0	*	41	н		۳	*
Calcium			12	0.028	1.1	*	#	н	н	·	
Manganese		. #	0.0085	0.0017	0.020	•		. **	*	h	
Potassium		*	0.74	0.41	3.3	•			•	lı .	
Iron			ND	0.032	0,20	•	•	H	•	н	
Magnesium		*	2.5	0.23	Ļì	*		•		•	
S10032-02	(G-EW3-090409)		W	ater		Sam	pled: 09/4	04/09 11:20			
Aluminum		6010B Total Recoverable	ND	0.31	0,50	mg/L	1x	50495	09/18/09 11:30	09/21/09 12:40	
Sodium		•	2.4	0.18	2.0		ь	н	п	<b>#</b>	
Calcium		in .	61	0.028	1.1	п	,	P	н		
Manganese			3.8	0.0017	0,020		•	17	а	•	
otassium		N	2.9	0.41	3.3	n	•	*	•		
ron	•	н	38	0.032	0,20	•	•		π		
Magnesium		4	8.7	0.23	1.1	. •	,	-	• .	•	
SI0032-03	(G-EW4-090409)		W:	ater		Sam	pled: 09/(	)4/09 13:20			
Aluminum		6010B Total Recoverable	ND	0,31	0.50	mg/L	1x	50495	09/18/09 11:30	09/21/09 12:44	
Sodium		R	2.5	0.18	2.0		*	W	•	*	
Calcium	•	н	29	0.028	1.1	•	*		•	п	
/Ianganese		•	0.18	0.0017	0.020	•	•		•		
otassium			0.90	0.41	3.3	•	•	h	• ,		
тол		×	23	0.032	0,20	•	•		•.	•	
Magnesium		•. •	8.0	0.23	1,1		4	•	•		
S10032-04	(G-EMW04-090409)		W	iter		Sam	pled: 09/(	14/09 15:35			_
Aluminum		6010B Total Recoverable	ND	0.31	0,50	mg/L	lĸ	50495	09/18/09 11:30	09/21/09 12:49	
odium		•	3,3	0.18	2.0	*			*		
Calcium		п	69	0.028	1.1	•	. *		•		
fanganese		i	1.4	0.0017	0,020	•	•	, н		•	-
otassium		•	3.2	0.41	3.3	•	я	P	H		
ron		•	20	0.032	0.20	•	н	u	#	N	
Magnesium		н	11	0.23	1.1						

TestAmerica Spokane

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Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: 073-93312-03 Project Manager.

Doug Morell

Report Created:

10/28/09 11:16

## Metals (ICP) Total Recoverable

	· · · · · · · · · · · · · · · · · · ·			TestAme	rica Tac	опа					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-06	(G-GA1-090509)		W:	ater		Sam	pled: 09/(	05/09 09:40			
Aluminum		6010B Total Recoverable	ND	0,31	0,50	mg/L	1x	50495	09/18/09 11:30	09/21/09 12:54	
Sodium		н	3,5	0.18	2.0	•	•	•	n	Ħ	
Calcium		ń	70	0.028	1.1	· #	77		•	Ħ	
Manganese		u	2.0	0.0017	0.020		*		u	•	
Potassium		· H	3.4	0.41	3.3		,		•	н	
fron	÷	•	7.8	0.032	0.20		4		•	n	
Magnesium		4	11	0.23	1.1	*	*		*	π	
SSI0032-07	(G-EMW05-090509)		W	ater		Sam	pled: 09/0	05/09 11:25			
Aluminum		6010B Total Recoverable	ND	0.31	0,50	mg/L	1x	50495	09/18/09 11:30	09/21/09 12:58	
Sodium		н	2.4	0.18	2.0		•	. •	- н	11	
Calcium		n	34	0.028	1.1	•	•	,	n		
Manganese		•	2.2	0.0017	0.020		•	•	#	ti .	
Potassium		ж.	1.5	0.41	3.3	<b>v</b> .	•				
Iron		M	19	0.032	0.20	.*	la	•	#	# ·	
Magnesium		n	6.9	0.23	1.3		ħ	Į į	at	n	
SS10032-08	(G-EMW06-090509)		· Wa	iter		Sam	pled: <b>0</b> 9/0	5/09 13:25			
Aluminum		6010B Total Recoverable	ND	0,31	0.50	mg/L	1x	50495	09/18/09 11:30	09/21/09 13:03	
Sodium		rs.	2.6	0.18	2.0	•		*	Ħ	. <b>h</b>	
Calcium		h	36	0.028	1.1	. 4	17	ıı	. 4	•	
Manganese		. •	1.0	0.0017	0.020		**		н	•	
Potassium			1.4	0.41	3.3	4	•	*		*	
Ĭron		•	12	0.032	0,20		*	¥		π	
Magnesium		P	7.8	0.23	1.1 '	. •	*	- *	•	• #	
SS10032-09	(G-EB-090509)		Wa	iter		Samj	pled: 09/0	5/09 14:00			
Aluminum		6010B Total Recoverable	ND	0,32	0,50	mg/L	1x	50495	09/18/09 11:30	09/21/09 13:08	
Sodium			ND	0.18	2.0	•	•	н		•	
Calcium		H	ND	0,028	1.1	π	•	*		•	
Manganese			ND	0.0017	0,020	#		p			
Potassium		•	ND	0.41	3.3	•		*			
Iron		-	ND	0.032	0.20		м.	*	•	•	

TestAmerica Spokane

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<u>Cardin</u> Randee Decker, Project Manager





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Project Manager: De

073-93312-03 Doug Morell Report Created:

10/28/09 11:16

## Metals (ICP) Total Recoverable

				TestAme	rica Tac	oma					<u></u>
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-14	(G-RS1SW-090609)		W	ater		Sam	pled: 09/(	6/09 09:45			
Aluminum		6010B Total Recoverable	ND	0.31	0.50	mg/L	lx	50495	09/18/09 11;30	09/21/09 13:12	
Sodium	•	*	1.1	0.18	2.0	,		•		н	
Calcium		•	12	0.028	1.1	*		ń	•	u	
Manganese		•	ND	0.0017	0.020		•		* 11	•	
Potessium		•	0.66	0.41	3.3	*		•	•		
Iron		•	ND .	0.032	0.20	•	* *		7	•	
Magnesium		•	2.5	0.23	1.1	•			• .	•	
SS10032-15	(G-RS2SW-090609)		W	ater		Sam	pled: 09/0	6/09 10:45			
Aluminum		6010B Total Recoverable	ND	6.31	0.50	mg/L	lx	50495	09/18/09 11:30	09/21/09 13:18	
Sodium		•	1.1	0.18	2.0	•	**		n '	н	
Calcium		•	12	0.028	1.1		<b>T</b>	•	•		
Manganese		•	ND	0.0017	0.020	•	*	*	4	u	
Potessium		h	0.67	0.41	3.3	u	*	# 1 °	•		
iron		*	0.051	0.032	0,20	*	*	•	•		
Magnesium		ь	2.4	0.23	1.1	*	•	* .	*		
SSI0032-16	(G-RS3SW-090609)	·	W	iter		Sam	pled: <b>0</b> 9/0	6/09 12:00			
Aluminum		60) OB Total Recoverable	ND	0.31	0,50	mg/L	1x	50495	09/18/09 11:30	09/21/09 13:32	
Sodiam	•		1.0	0.18	2,0			. •	•		
Calcium		ь	11	0.028	1.1	•				•	
Manganese		π	ND	0.0017	0.020	•	•	7		N	
Potassium			0.68	0.41	3.3	•	•	*	•	•	
iron		•	ND	0.032	0.20	. #	7	. 8	•	*	
Vlagnesium		•	2.4	0.23	1.1	•	ħ	at	*	¥	
SSI0032-17	(G-RS3DSW-090609)		Wa	iter		Samj	oled: 09/0	6/09 11:40			
Aluminum		6010B Total Recoverable	ND	0.31	0,50	mg/L	lx	50495	09/18/09 11:30	09/21/09 13:37	
lodium			0.99	0.18	2.0	•	h	•	•		
Calcium		•	11	0.028	1.3	•	*	•	•	•	
/ianganese		•	ND	0.0017	0,020	•	* -	•	•	*	
otassium			0.64	0.41	3,3	8	•	и .	-		
ron			ND	0.032	0.20	•	*	le le		H	
					•••-						

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Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/28/09 11:16

### Metals (ICP) Total Recoverable

				TestAme	erica Tac	oma					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-19	(G-RS4SW-090609)		W	ater		Sam	pled: 09/0	6/09 13:30			
Aluminum		6010B Total Recoverable	ND	0.31	0.50	mg/L	1x	50495	09/18/09 11:30	09/21/09 13:43	
Sodium		•	1.0	0.18	2.0	*	,	•	Ħ	н.	
Calcium		•	11	0.028	1.1	•		•	**	*	
Manganese			0.011	0.0017	0.020		•	•	II	•	
Potassium		•	0.66	0.41	3.3	ħ		*	D		
lron .	•	u	0.041	0.032	0,20		•		U	•	
Magnesium		*	2.3	0,23	1.1	*	*	н "	11	¥	
SS10032-20	(G-RS5SW-090609)		W	ater		Sam	pled: 09/0	6/09 14:00			
Aluminum		6010B Total Recoverable	ND	0.31	0.50	mg/L	lx	50495	09/18/09 11:30	09/21/09 13:49	<del></del>
Sodium		•	1,2	0.18	2.0	**	*	н	-	•	
Calcium			15	0.028	1.1	99		h	*	•	
Manganese		н	0.16	0.0017	0,020		•	ti .	п	u	
otassium		п	0.76	0.41	3,3	*	•	п	*	•	
ran	•		1.7	0.032	0.20		•	11			
Magnesium		<b>P</b> .	3.0	0.23	1.1	*	* '	۳.		•	
SSI0032-21	(G-R\$6SW-090609)		W	iter		Samj	pled: 09/0	6/09 14:50			
Aluminum		6010B Total Recoverable	ND	0.31	0.50	mg/L	1x	50495	09/18/09 11:30	09/21/09 13:54	
Sodium ·		<b>*</b>	1.0	0.18	2,0	•	и	v	tr .	•	
Calcium			11	0.028	1.1	. 9		π	#		-
Anganese		H	0.011	0.0017	0.020	**	n	11	п	*	
otassium	•		0.68	0.41	3.3		D	. "	•	•	
ron		•	0.068	0.032	0.20	*	В	h		•	
Magnesium		п	2.3	0.23	1.1	*	*	*	*	•	
SSI0032-22	(G-R\$7\$W-090609)		Ws	iter		Samp	oled: 09/0	6/09 15:20			
Muminum		6010B Total Recoverable	ND	0,31	0.50	mg/L	lx	50495	09/18/09 11:30	09/21/09 12:03	
edium		я	1.0	0.18	2.0	*	•				
alcium		*	11	0.028	1.1	*	•	•	. *	•	
langanese			0.0076	0.0017	0,020	H	•	٠.	•	w '	
otassium	•	u	0.69	0.41	3.3	•	٠	н	•	*	
ron		п	ND	0.032	0.20	4	۳.			*	

TestAmerica Spokane

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Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/28/09 11:16

# Metals (ICP) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-23	(G-RS8SW-090609)		W	ater		Sam	pled: 09/0	6/09 16:25			
Aluminum		6010B Total Recoverable	ND	0.31	0.50	mg/L	1%	50495	09/18/09 11:30	09/21/09 14:00	_
Sodium		•	1.0	0.18	2.0	•	**	*	а	*	ı
Calcium		•	11	0.028	1.1		*	*	tr	*	
Mangonese		•	0.0019	0.0017	0,020	h	tt			•	J
Potassium		•	0.68	0.41	3.3	4	•	n		n	J
Iron			ND	0.032	0.20	<b>f</b> T			. в	н	
Mugnesium			2.3	0.23	1.1	п			19	H	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Report Created: 10/28/09 11:16

Project Manager. Doug Morell

					ry (CV erica Tac	-					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-01	(G-HC1R-090409)		· w	ater		Sam	pled: 09/(	04/09 09:00			
Mercury		7470A	ND	0.000041	0.00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 11;21	
SSI0032-02	(G-EW3-090409)		w	ater		Sam	pled: 09/0	04/09 11:20		•	
Мегенту		. 7470A	ND	0.000041	0.00020	mg/L	1x	50154	09/14/09 09:02	09/14/09 11:33	
SS10032-03	(G-EW4-090409)		w	ater		Sam	pled: 09/(	04/09 13:20			
Мегситу		7470A	0,00012	0.000041	0,00020	mg/L	1x	50154	09/14/09 09:02	09/14/09 11:37	
SSI0032-04	(G-EMW04-090409)		W:	ater		Samj	pled: 09/(	14/09 15:35			
Mercury		7470A	0.000074	0.000041	0.00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 11:42	
SS10032-05	(G-P101OFP-090409)		Oí	her (L)	é	Samj	pled: 09/(	04/09 17:30			
Mercury		7471A	ND	0.011	0,036	mg/Kg	lx	50889	09/25/09 11:09	09/28/09 12:40	
SS10032-06	(G-GA1-090509)		W	ater		Sam	pled: 09/(	5/09 09:40			
Mercury		7470A	ND	0.000041	0.00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 11:46	
SS10032-07.	(G-EMW05-090509)		W:	ater		Samı	oled: 09/0	5/09 11:25			
Mercury	(	7470A	0,000079	0.000041	0,00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 11:51	
SS10032-08	(G-EMW06-090509)		W	ater		Samı	oled: 09/0	5/09 13:25			
Mercury	(0 2.2.1.00 03.000)	7470A	0.00012	0.000041	0.00020	mg/L	1x	50154	09/14/09 09:02	09/14/09 11:55	
SSI0032-09	(G-EB-090509)		W	ater		Samr	oled: 09/0	5/09 14:00			
Mercury	(6-22-03000)	7470A	ND	0.000041	0,00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 11:59	
SSI0032-10	(G-RS5FP-090509)		Ωŧ	her (L)		Samr	ded: 09//	5/09 15:00			
Mercury	(4.020.1.1020x)	7471A	0.034	0.012	0.038	mg/Kg	lx	50889	09/25/09 11:09	09/28/09 12:57	
-	AC MCATT BROKEN		Oal	her (L)			Jode AD/A	5/09 16:08			
SSI0032-11 Mercury	(G-RS4FP-090509)	7471A	0.034	0.012	0,03B	mg/Kg	1x	50889	09/25/09 11:09	09/28/09 13:01	

TestAmerica Spokane

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(ardessloo Randee Decker, Project Manager





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/28/09 11:16

### Mercury (CVAA)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-12	(G-RS3FP-090509)		Ot	her (L)		Sam	pled: 09/0	5/09 16:35			
Mercury		7471A	0.019	0.012	0,038	mg/Kg	lx	50889	09/25/09 11:09	09/28/09 13:06	1
SSI0032-13	(G-RS3aFP-090509)		Ot	her (L)	÷	Sam	pled: 09/0	5/09 17:00			
Mercury		7471 A	0.613	0.013	0.040	mg/Kg	1x	50889	09/25/09 11:09	09/28/09 13:10	J
SS10032-14	(G-RS1SW-090609)		W.	ater		Sam	pled: 09/0	6/09 09:45			
Mercury		7470A	ND	0.00004)	0,00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 12:03	
SSI0032-15	(G-RS2SW-090609)		W	ater .		Sam	pled: 09/0	6/09 10:45			
Mercury		7470A	0.00012	0.000041	0.00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 12:07	1
SSI0032-16	(G-RS3SW-090609)		W	ater		Sam	pled: 09/0	6/09 12:00			
Mercury		7470A	ND	0.000041	0.00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 12:12	
SS10032-17	(G-RS3DSW-090609)		Wı	iter		Sam	pled: 09/0	6/09 11:40			
Mercury		7470A	0.000090	0,000041	0.00020	mg/L	Ix	50154	09/14/09 09:02	09/14/09 12:24	J
SSI0032-19	(G-RS4SW-090609)		Wi	iter		Samj	pleđ: 09/0	6/09 13:30			
Мегситу		7470A	ND	0.000047	0,00020	mg/L	1x	50154	09/14/09 09:02	09/14/09 12:29	
SS10032-20	(G-RS5SW-090609)		W	iter		Samp	pled: 09/0	6/09 14:00			
Мегсигу		7470A	ND	0.000041	0.00020	mg/L	1x	50154	09/14/09 09:02	09/14/09 12:33	
SSI0032-21	(G-RS6SW-090609)		Ws	iter		Samj	pleđ: 09/0	6/09 14:50	•		
Mercury		7470A	0.00012	0.000041	0.00020	mg/L	1ѫ	50154	09/14/09 09:02	09/14/09 12:37	J
SS10032-22	(G-RS7SW-090609)		Wa	ıter	٠	Samj	pled: 09/0	6/09 15:20			
Mercury		7470A	ND	0.000041	0.00020	mg/L	1x	50154	09/14/09 09:02	09/14/09 11:03	
SSI0032-23	(G-RS8SW-090609)		Wa	iter		Samj	oled: 09/0	6/09 16:25			
Mercury	•	7470A	ND	0.000041	0,00020	mg/L	lx	50154	09/14/09 09:02	09/14/09 12:41	

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LNAPL

(ANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: 073-93312-03

Project Manager: Doug Morell Report Created:

10/28/09 11:16

Metals (	(ICP)
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I estamenca	1	ac	OM	ķ

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch-	Prepared	Analyzed	Notes
SSI0032-05	(G-P101OFP-090409)		0	ther (L)		Sam	pled: 09/0	4/09 17:30			
Aluminum		6010B TMP	1500	36	120	mg/Kg	lx	50886	09/25/09 10:48	09/25/09 16:19	
Lead			3.2	0.48	6.1	•	•	*	я	H	
\rsenic		•	4.8	0.52	12		н	*	7	. •	
Calcium		•	570	6.1	220	-	•	•	• .		
Antimony		•	ND	0.69	12	7		•	•	н	
Beryllium		•	0.055	0.0048	1.0	•	•	*		, <b>H</b>	:
:hromium		•	1.8	0.19	5.2	•		*	a		
otassium		•	290	65	670	*	•	*			:
elenium		•	ND	0.48	20	11	•		•		
arium		•	24	0,061	2.0	•			•	•	
ron			2300	1.9	40		•		•	•	
iilver		•	ND	0.18	. 4.0	n	77	*	•	*	
Isgoesium		•	800	2.7	220		#	h	•	N	
ickel	•	•	9.7	0.32	4.0	•	Ħ	•	*	•	
odium		•	780	J 27	400	•	4	*	*	•	
admium		×	ND	0.32	2.0		*	•	*	•	
opper	· ·	•	12	0.89	4.0	•	*	•	• .	•	
langanese		n .	31	0.032	4,0	•		*	. 19	•	
obalt			1.8	0.13	2.0	•	•		*		
hallium		н	ND	0.56	20	•			•	•	
anadium		•	8,5	0.12	2.0	•		+ **	•		
ine		•	21	0.81	· 10	• .	•	•	P	•	
SI0032-10	(G-RS5FP-090509)		O	ther (L)		Sam	pled: 09/0:	5/09 15:00			
uminum	. 6	010B TMP	360	36	120	mg/Kg	lx	50886	09/25/09 10:48	09/25/09 16:57	-
æd		п	24	0.49	6.1	*	•		*	•	
rsenic		*	4.6	0.53	12		•		*	W	3
alcium		•	470	6.1	220	•		р,	•	•	
numony		•	ND	0.70	12	*	•	P	•	•	
eryllium		•	ND	0,0049	1.0		. •	٠,	•		
tromiuju		•	2.1	8.19	5.3	•		•		•	J
tassium		н	180	65	670	•	•	*	۳.	•	J
lenium			1.6	0.49	20	•		n		•	. 1
arium		er	7.4	0,061	2.0	•		#	•	•	
on .		н .	390	1.9	41	•	н	<b>u</b> -	÷	•	
ilver		*	ND	0.18	4.1	•	н	я	•	•	
iagnesium	-	•	68	2.7	<del>22</del> 0	χ·	r		•		اللي السيد
	·	н	39	0,33	4.1	•		υ			
Nickel Sođium	······································	н	39 850	0,33 28	4.1	<u> </u>		7	*	# .	

TestAmerica Spokane

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tardesso Randee Decker, Project Manager



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created; 10/28/09 11:16

#### Metals (ICP)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-10	(G-RS5FP-090509)		Oth	er (L)		Sam	pled: 09/(	5/09 15:00	•		
Cadmium		6010B TMP	ND	0.33	2.0	mg/Kg	1x	50886	09/25/09 10:48	09/25/09 16:57	
Copper		U	69	0.90	4.1	U	н	•	. •	**	
(anganese		•	8.7	0.033	4.1	*	•	ji			
obalt			0.65	0.13	2.0	•		н	w	n n	•
hallium		•	ND ND	0.57	20	*	H	n	•	×	
anadium			110	0.12	2,0		•		Ŋ	, w ,	
inc		•	67	0.82	10		• .	ų	п	н	
SI0032-11	(G-RS4FP-090509)		Oth	er (L)		Sam	pled: 09/(	5/09 16:08			
Juminum		6010B TMP	340	34	120 -	mg/Kg	1x	50886	09/25/09 10:48	09/25/09 17:03	
ead		•	27	0.46	5.8	•	п	<b>"</b> .	н	N	
rsenic		. •	4.4	0.50	12	. *	•	•	*	a	
elcium		. •	340	5.8	210	•		•			
ntimony		•	ND	0.66	12	*		n		a	
eryllium	•	•	ND	0.0046	0.97	•	٠	•	Ħ	¥	
hromium		• ′	2.0	0.18	5,0			۳		•	
muissato		•	ND	62	640	*					
elenium			0,63	0.46	19			7		•	
erium		•	5.9	0.058	1.9	*		•		**	
On Can		•	170	1.8	39	•	41	11	H	4	
lver			ND	0.17	3.9	•	#	•	. *	h	
egnesium		•	4 <del>8</del>	2.6	210	u .	•			Ē	_
ckel		•	34	0.31	3,9	**	•		n	•	•
dium	•	*	970	26	390	,	•		Ħ	N	
admium			ND	0.31	1.9	•		•	• '	ń	
pper		u	71	0.85	3.9	•	-		•		
anganese	•	. •	2.9	0.031	3,9		•	*		н	
ob <b>al</b> t		*	0,56	0.12	1.9	•	•	Ħ	•	н	
allium		•	ND	0,54	19				•	h	
nsuibana			140	0.12	1.9	•	*	•	#	•	
inc	•	*	15	0.77	9.7	•	N.			M	

TestAmerica Spokane

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Name: Project Manager: **Avery Landing** 

Project Number.

073-93312-03 Doug Morell

Report Created:

10/28/09 11:16

### Metals (ICP)

TestAmerica Tacoma

				TOOLUIN	ciica I ac	Dille.					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-12	(G-RS3FP-090509)		Oth	ıer (L)		Sam	pled: 09/(	05/09 16:35			
Alominum	•	6010B TIMP	120	40	130	mg/Kg	lx	50886	09/25/09 10:48	09/25/09 17:10	•
Lead		ti .	ND	0.54	6.7	*	*	п	н	<b>u</b> .	
Arsenic		•	1.7	0.58	13	-	*	*	*	• '	
Calcium		7	340	6.7	250	4	•	*	*	*	
Antimony		tt	ND	0.76	13		*	. *	•	<b>*</b>	
Beryllium		#	ND	0.0054	1.1	•			•	н	
hromium		•	0.47	0.21	5.8	*	ĸ	p		н	
Potassium		*	ND	72	740		н	•	4	н	
elenium		п	ND	0.54	22			4	•	H	
Barium		•	3.4	0.067	2.2	*		*	*		•
ron			57	2.1	45	•		•	н	•	
ilv <del>er</del>		· <del>g</del>	ND	0.20	4.5	H	#	π		•	
Tagnesium		н		3.0	250	L ·	41		н	-	تعلقسه
ickel		* •	20	0.36	4.5	**	•	*	n n	п	-
odium		•	1100	31	450		•	*	•	*	
admium		• .	ND	0.36	2.2	•	•	*	•	r	
opper		•	12	0.99	4.5	•		*	•	H	
anganese		•	1.4	0.036	4.5		*		•		
obalt		•	0.28	0.14	2.2		h	•	'n	•	
hallium		,	ND	0.63	22	•	•		v	•	
anadium		7	16	0.13	2.2	u		×	t#	н	
inc		•	12	0.90	11		Ħ	•	•	*	
S10032-13	(G-RS3aFP-090509)		Oth	er (L)		Samj	pled: 09/0	5/09 17:00		·	
luminum		6010B TMP	85	33	110	mg/Kg	1x	50886	09/25/09 10:48	09/25/09 17:17	
ead		•	ND	0.44	5.6		•	*		•	
rsenic		•	1.2	0.48	` 11			•		•	
1)cium		.*	280	5.6	200	п	•	•	W	W	
ntimony		11	ND	0.63	11	#	*	•	•	**	
eryllium		,,	ND	0.0044	0,93		ħ	•	•	н	
hromium		*	ND	0.17	4.8		*	*		•	
)(assium		#	ND	59	610	H	Ħ	'n	•	M	
denium		iı	ND	0.44	19			н	В	•	
Arium		•	2.2	0.056	1.9	ĸ	b	×		,₩	
on	4	•	130	1.7	37	,	•	. 31		•	
ilver		•	ND	0.17	3.7	*	7	*	•		i.
lagnesium	*	•	سهتر	2.4	200 1	L.	н		. "	π	لبتسب
ickel			4.6	0.30	3.7	п	×			- · · · · · · · · · · · · · · · · · · ·	
odium			1100	25	370			n		•	

TestAmerica Spokane

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<u>tardir</u> Randee Decker, Project Manager

Page 17 of 77



11922 E. 1ST AVENUE SPCKANE VALLEY, WA 99206-5302 ph; (509) 924,9200 fax; (509) 924,9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number:

073-93312-03

Report Created:

Project Manager:

Doug Morell

10/28/09 11:16

#### Metals (ICP)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-13	(G-RS3aFP-090509)		Oth	er (L)		Sam	pled: 09/0	5/09 17:00			
Cedmium		6010B TMP	ND	0.30	1,9	mg/Kg	1x	50886	09/25/09 10:48	09/25/09 17:17	
Copper		11	4.6	0.81	3.7		н	н	n	•	
Manganese		4	1.2	0.030	3.7	т,	•	п	•	* 1	
Cobalt			ND	0.12	1.9	•	u		•	*	
Thallium	•		ND	0.52	19	•	u	•		•	
Vanadium		п	4.1	0.11	1.9	**			•	Ø	
Zinc		it:	5.6	0.74	9.3				•	H	

TestAmerica Spokane

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GOLDER PROJECT #: 073-93	3312.05		SITE: Avery Landing/ POTLATCH / Idaho									
LABORATORY: Test Ameri	ca		SDG: #SSI0032									
SAMPLES		Collec	t:		MATRI	X						
-See Attached S	on has has	AV DO	AP.	Mas	SOIL #	ENA	PL					
		7 PS	Water									
	···········	<u></u>	· · · · · · · · · · · · · · · · · · ·	<u>v</u>								
				<u> </u>								
			<u> </u>	<del>-</del>	<del></del>							
D.	ATA ASS	ESSMEN	T SUMMA	ARY		***	<u>,</u>					
REVIEW ITEM	VOA	BNA	Pest /	TPH-Dx	PAH -	OTHER	OTHER					
			PCB		SIM							
1. Data Completeness	<del> </del>	<del>                                     </del>	0	0								
2. Preservation, Holding Times				<del>X</del> 1								
3.GC/MS Tune, Inst. Performance	<del></del> -		<del>-</del>									
4. Calibrations	<del></del>	·			<u></u>							
5. Surrogates			<b>X</b> 2									
6. Internal Standards					73							
7. Lab Blanks, Field Blanks		· · ·			<del>\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ </del>	,						
8. Lab Duplicates, Field Duplicates		·										
9. LCS, Blank Spike, MS/MSD				-	(-)							
10.Compound Identification, TICs			~	7	7							
11. Result Verification, D.Limits												
12. Overall Summary					A							
O = Data had no problems	- Θ	= Problem	s, but do not	affect data								
X = Data qualified due to minor pro			-									
M = Data qualified due to major prol	olems [typic	ally more										
Z = Data unacceptable [typically data Comments/Oualified Results:	a rejected (I	8). 61 \ 4	041 AD-		11	1.56-4						
					<del></del>	· · · · · · · · · · · · · · · · · · ·	<del></del> :					
Since past Hold tiv	<u>ve                                     </u>	Z) LNI	APL Sam	TIES TOI	HUBS	Maa H	<del>νω</del>					
Surrog. recovery.	42220 ·	Mesure	S Dual.	(7(84)°	Water	Samo	6 <u>06</u>					
quality (Tur) for	same.	reason	1. (2) 2	ingle su	<u>nrog. ov</u>	it for	<u> 2616</u> 04					
TPH & PAH Samples -	-NO GU	IALIE, I	APPLED	<u> </u>	1	1.945.						
3 IS out of Limi-	- Guai	762 5	<u>lerahen</u>	7. 228570 1 A	manas u	LUAPL	<u>-Sam</u> pli					
-10 + -11 as estima	TEAL	(NT) ·		<u>. Man</u>	\a1/		<del></del>					
4) Contaminants in U	4. BOMK	qual-c	osar-sar	wee as	<u> </u>							
							<u>·</u>					
							<del></del>					
	<del></del>			<u></u>			<del></del>					
Validated by: On		30			Data: N	Jou-11,	>00G					
Reviewed by:	· ~~	H			Date: r	700:11	ريب					

# Acceptable:

		YES T	NO
1. Date Package Completeness (Check if p	resent)	<b>t</b>	
	/		
<u>V</u> Case narrative	_∕Blank Results		
<u>✓</u> Chain of Custody	Surrogate Results	/ Acceptable	
Sample Results Detection Limits	<u>✓</u> nternal Standards <u>✓</u> MS/MSD, LCS Results	X Absent O Not required for	•
VGC/MS Tuning	Preparation Logs	data package	
Vinitial Calibration	✓Analysis Run Logs	requested.	
Continuing Calib.	<b>∦</b> Raw Data	·	
<del></del>	_Other		
Comments/Qualified Results:			
· · · · · · · · · · · · · · · · · · ·		<del></del>	
	·		
2 Holding Times (Check all that apply)	•		
2. Holding Times (Check all that apply)		🗀 (	
Unpreserved VOA analyzed in 7 days from collection; Presi	noted 14 days from collection D	Date.	
✓ Onpreserved VOA analyzed in 7 days from collection; Presi ✓BNA samples extracted within 7 days (14 day soil) of collect	ion	пн5	
BNA extracts analyzed within 40 days of collection	1011	•	
Pest/PCBs samples extracted within 7 days (14 day soil) of	collection		
Pest/PCBs extracts analyzed within 40 days of collection			
Qualify as estimated (J/UJ) all results analyzed past hold time	limits, but within 2X of the limit. C	outside the 2X limit, o	qualify
detects as (J) and non-detects as (UR).	1111	n	_
Comments/Qualified Results:	Hold Time.	handrnary	<u></u>
Tables ofteched.		•	
(6.5)(		<del></del>	
			<u> </u>
(X) NWTPH-Dx results for -	-06 RE1 (B-GA)	-090509)	qualit
J/UJ: H. Time @ 39 Day		-	t
-107 3 H. 11MG (0, 24 Da)	<u> </u>		<del>-,</del>
			<del></del>
3. GC Instrument Tune, Performance Chec	Ir		٦
. /	N	Laper ⊢ L	-1
GC/MS Tuning performedR	es Chk Mix, MidPoint AB <60%,	Lifor detects LIR at	her\
GC/MS Tuning within control limits P	EM resolution <90% adj pks, (J fo		
	OT, Endrin breakdown >20%, (J		
	in Aldehyde, Endrin Ketone, or N		
_Res Check Mix, MidPoint AB, TCMX, DCBP within RT windo	ws from ICAL AB mixture (Fix or	R/UR)	
Comments/Qualified Results:			
PAH. 9/13/9/15/9/17/			
		<del></del>	

Acceptable: Yes NO
4. Initial & Continuing Calibration (Check all that apply)
GC/MS Data:
X-PCB coal out of limit high for select samples,
5. Surrogates (Check all that apply)
Surrogates analyzed  Recoveries within Method Control (lab) limits (VOA: 80 – 120%, SVOA: Lab Established, PEST: 30-150%)  Recoveries above Method Control limits (J detects only)  Recoveries below Method Control limits but>20% (J/UJ)  Recoveries below 20%, 10% for PEST (J/UR for VOA, J/UJ or UR for SVOA, J/UR for PEST)  Comments/Qualified Results  TOH-Dx (LNAPL) ZFBPT fax -05 \$-11. No Qualified Results
PAHs (LNAM) TemphonylT for -10 \$-11. Single Surry out-No Qual.
DCBs (WAPL) DOBPL in -5, -10,-11,-12. Associated results
Joseph Qualif (Jus). (WATER) TOMX & DOBP & in -06, \$ TOMX & in -21. HOSOC Jesults Qualif (Jus).
Vesults Qualit (SUAT).
6. Internal Standards Performance
✓internal standards added to all QC and samples ✓internal standards areas within Control Limits* [+/-40% VOA, +/-50% SVOA]*  *Associated with 12 Hour CCV Stnd. ✓internal standards out of Control limits but >10% (J/UJ)  —internal standards zero or <10% of Control limits (J/UR)
Internal standards RTs within +/-20 sec window (If no. J/UJ)
Comments/Qualified Results: PAHs (LNAPL) IS Cut for -10 -11 9598C.  w/p-Terphenyl Chipnels qualif. (TuI). (WATER).

			Accep	table:	Yes	NO	
7	. Laboratory Blanks, Field Blanks (Check all t	that appl	у)	•••••			) .
- - -	Method Blanks, Prep.Blanks analyzed after Cal Stnds and every Method Blnk Common Lab Contaminants, list: MeCl2, Cyclohex Other Contaminants: Qualify results (< 5X RL) according to Cha Instrument blanks after all high level samples, All cmpnds must be	(<10X RLs) at below.	; Acetone, 2	2-butanon	e (<2X RLs	); Chart	
	Examples:	[	BLANK		SAMPLE	Q	
(	Comments/Qualified Results:	MDL	Result	PQL	Result	Applied	
•	TPH Dx - (Water) MB0104 MB01217	0.3 0.3	0.45 0.99	1.0 1.0	0.8 1.8	1.0 U 1.8 J	
	(LNAPL) MBOURY MBOOGH	0.3 0.3	1.5 1.5	1.0	1.1 1.8	1.5 U 1.8 J	
-		0.3	0	1.0	0.85	0.85 J	
-	DOG GO HAND A GO	0.3	0	1.0	1.8	1.8	
_	PCISS (MILNAR) MB 0119"					<u> </u>	
	(Water) MB 335/16 V 626/15 V						
	PAHS (LNAPL) MB0081		<del></del>		<del></del> .		
	(WATER) 233/5-Noph, 2mnoph, 11 Fluoren, Phenomenh detected in ons. As	Maph,	Hutlana	e tluo	Com Ac	en trrew	e,
			٠.		u /	<b>/</b> ,	
8	. Duplicate, Field Duplicates (Check all that ap	ply)				. 🗆	
	Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X C	וחסי					
_	Duplicate range is within ±CRDL (± 2X CRDL for soils) for results	<5X CRDL				,	
_	Field duplicate RPD <20% (<35% for soils)	TER)	/ws/	40k -5	~ V_2	V 9/2	LOS/LOSD
C	omments/Qualified Results	CSD.	11-0/10	<u> </u>	$\mathcal{O}_{1}^{-2}$	<u> </u>	Lespeusy
_	%5 LCS/LCSD						
-	PCB: WS/MSD on -05 " #5221	60					
	DOH: MESMAN ON -11 /2 (6	WATER)	- 500	20 B	itch		
	TALL STREET	14.5.		<u> </u>	,		
		<del></del>	<del></del>				
					/	<i>'</i>	
9.	MS/MSD, Lab Control Samples, Blank Spike	es (Chec	k ali tha	t apply)	<b>b</b>	0	
		•		1,,,,			
	LCS %R 80-120% LCS %R 50-79% or >120%, results >IDL estimated (J)		,				
	LCS %R 50-79% and results <idl (uj)<="" estimated="" td=""><td></td><td></td><td></td><td></td><td></td><td></td></idl>						
	LCS %R <50% and all results rejected (R/UR)	•	/			•	
. С	omments/Qualified Results: TPH (LNAPL)	#00118	7 105	. iMS/	mao":	WATER	#0104
ia	Strong wishing - 20 02 /	G/10 t	terns	A121	10/	= #ragil	
• <u>•</u>	AR (NA) LACK		DVD IV	III A		<u>- 4.77</u>	
<u> </u>	CIS (ENAPL) LCS , MS/MSDON	<u>-05</u>	<u>rus-14</u>	16 TV	<del>cons</del>	Y # (0)	70°C
MI	tetracts (Quality to). Sample hes no	<u>Detec</u>	ts-N	Qual	.(WATE	ER) LCS	ν \
رد م آ_ا	US/MSDON-22 1. PAH'S (NAPL)	LCS V	ws/w	MO 02	-UFI	ucrene 1	Paval (5)
	N = 0/						7-00-7,

Acceptable	: Yes	NO
10.Compound Identification, TICs	. 12	
Comments/Qualified Results:		
<u> </u>		
11. Result Verification, Detection Limits	nt/	П
	us	
All results supported in raw data Detection Limits appropriate to meet project needs (Review Work Plan, QAPP)		
Comments/Qualified Results:		
		<del></del>
		· ·
12. Overall Assessment	<b>3</b>	
Comments/Qualified Results:		
Sommeria/Qualified Nesulta.		
· <del></del>		
<del></del>		



THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager; 073-93312-03

Doug Morell

Report Created: 10/28/09 11:16

# Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

•			TestAme	OTION THE						
Analyte	Method	Result	MDL*	MRL	Units	Dit	Batch	Prepared	Analyzed	Notes
SSI0032-08 (G-EMW06-090509)		W	ater		San	npled: 09/	05/09 13:25			
Dibenz(a,h)anthracene	8270C STD	ND	0.0017	0,0094	ug/L	1x	50020	09/10/09 15:12	09/15/09 17:17	
Benzo[g,h,i]perylene	u	ND	0.0019	0.0094	*	*	•	н .		
Surrogate(s): Nitrobenzene-d5			109%		4	0 - 110 %	"		"	
2-Fluorobiphenyl			51%		5	0 - 110 %	ρ		*	
Terphenyl-d14			103%		5	0 - 135 %	#		#	
SSI0032-09 (G-EB-090509)		W:	nter		San	npled: 09/	05/09 14:00			
Naphthalene	8270C STD	0.021	0.0034	0.0094	ug/L	ĭx	50020	09/10/09 15:12	09/17/09 18:32	
2-Methylnaphthalene		0.013	0.0028	0.012	*			•	п	
l-Methylnaphthalene		0.0098	0.0011	0,0094		• •	•	4	•	
Benzo[a]anthracene	В	ND	0.0023	0,0094	*	ï	•	#	•	
Accuaphthylene	W	ND	0.0010	0.0094					M	
Anthracene		0.0012	0.00075	0.0094		•				
Chrysene	•	ND	0.0020	0.0094	•				*	
cenaphthene	n	0.038	0.00094	0,0094	• .	•	*			
Benzo[b]fluoranthene	ii	ND	0.0025	0,0094		•			a	
Tuoranthene	н	0.0019	0.0015	0.0094	•	70	•			
Benzo[k]fluoranthene	n	ND	0.0023	0.0094	•	•	•	ħ	н	
Juorene		0.0034	0.0011	0.0094	•	*	•	*	•	
yrene	•	ND	0.0016	0.0094	n	•	•		•	
Benzo[a]pyrene	•	ND	0.0018	0.019		•	*	۳.	U	
henanthrene	e .	0.0047	0.0010	0.0094		•	. •			
ndeno[1,2,3-cd]pyrene	**	ND	0.0019	0,0094	п		16			
Dibenz(a,h)anthracene	•	ND	8.0017	0,0094	ĸ	-	• .	*		
Benzo[g,h,i]perylens	•	ND	0.0019	0,0094	n	· ×	₹	4	•	
Surrogate(s): Nitrobenzene-d5			103%		40	0 - 110 %	**		**	
2-Fluorobiphenyl			86%		50	) - 110 %			n	
Terphenyl-d14	•		105%	,	56	) - 135 %	η .		н	
SI0032-14 (G-RS1SW-090609)		Wa	iter		Sam	pled: <b>0</b> 9/	06/09 09:45			
laphthalene	8270C STD	ND	0.0035	0,0096	ug/L	lx	50020	09/10/09 15:12	09/17/09 18:52	
-Methylnaphthalene	В	ND	0.0029	0,012		*	w		•	
-Methylnaphthalene	<b>→</b> ·	0.9024	0.0012	0.0096	*		M	41	•	
Benzo[a]anthracene	•	ND	0.0023	0.0096	•		u	•	<b>w</b>	
Acenaphthylene	· in	ND	0.0011	0.0096	*	*			•	
uthracene	h .	0.0011	0.00077	0.0096	•			₩	π	
Chrysene		ND	0.0020	0,0096		¥		н		
Acenaphthene	iπ	0.0012	0.00096	0.0096	*	н		и	n	

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/28/09 11:16

### Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

· · · · · · · · · · · · · · · · · · ·		· .								
Analyte	Method	Result	MDL*	MRL	Units	Dji	Batch	Prepared	Analyzed	Notes
SSI0032-14 (G-RS1SW-090609)		· W	ater		Samp	led: 09/	06/09 09:45		•	
Benzo[i] fluoranthene	8270C STD	, ND	0.0025	0,0096	ug/L	lx	50020	09/10/09 15:12	09/17/09 18:52	
Fluoranthene	h	0.0020	0.0015	0,0096	11	*	Ħ		*	
Benzo[k]fluoranthene	*	ND	0.0023	0,0096	H	7		ń	ŋ	
Fluorene	u	0,0026	0.0012	0,0096	*		,		• .	
Pyrenc	•	ND	0.0016	0,0096	٠.	•	àr .	•	•	
Benzo[a]pyrene	h	ND	0.0018	0.019	×	۰	•	•	•	
Phenanthrene	•	0.0040	0.0011	0,0096				п	*	
Indeno[1,2,3-cd]pyrene	w	ND	0.0019	0,0096	Ħ	n	*	я	<b>E</b>	
Dihenz(a,h)anthracene	<b>*</b>	ND	0.0017	0.0096	a	*	•	u	*	
Benzo[g,h,i]perylene	*	ND	0.0019	0.0096	•	•	•	u	*	
Surrogate(s): Nitrobenzene-d5			103%		40 -	110%	"		н	
2-Fluorobiphenyl			87%		50 -	110%	D.		n	
Terphenyl-d14			102%		50 -	135 %	n		n	•
SSI0032-15 (G-RS2SW-090609)		Wa	iter		Samp	led: 09/	06/09 10:45			•
Naphthelene	8270C STD	ND	0.0036	0.0099	ug/L	1 <b>x</b>	50020	09/10/09 15:12	09/15/09 18:17	
-Methylnaphthalene	N	ND	0.0030	0.013		•	π	h	<b>B</b> •	
-Methylnaphthalene		0.0016	0.0012	0.0099 🔥	. •	*	•	H		ستخد
Benzo[a]anthracene	*	ND	0.0024	0.0099			4	71	•	
Acenaphthylene	•	. ND	0.0011	0.0099			•	.•	•	
Anthracene		0.0013	0.00079	0.0099			*		-	بهلغ
Chrysene	•	ND	0.002}	0.0099		*	•	•	π	
Acenaphthene	н .	0.0011	0.00099	0.0099		•		а	•	بملند
Benzo[b]fluoranthene	н	ND	0.0026	0.0099				*	•	
Juoranthene	•	_0.0031	0.0016	0.0099 👢			•	11		بيان
Senzo[k]fluoranthene	<b>#</b> .	ND	0.0024	0.0099	*		œ	•		_
Inorene	н	0.0023	0,0012	0.0099	b	D	H	•	n n	بيلسع
yrene	n	0.0036	0.0017	0.0099 LL		11	н	•	. н	بيلنو
Senzo[a]pyrene	•	ND	0.0019	0,020		**	н.		Ir	
henanthreae	•	0.0054	0.0011	0.0099	Ħ		h		*	بيقو
ndeno[1,2,3-cd]pyrene	*	ND	0.0020	0,0099	•	• `	Ħ		π	
Dibenz(a,h)anduracene	•	ND	0.0018	0.0099		*	**	•	. •	
Benzo[g,h,i]perylone	•	ND	0.0020	0,0099		. "	Ħ	₩	n	-
Surrogate(s): Nitrobenzene-d5			92%		40 -	110%	,		W	
2-Fluorobiphenyl			80%		50 -	110%	n		*	
Terphenyl-d14			92%			135 %			_	

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created:

10/28/09 11:16

### Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-16 (G-RS3SW-090609)		Wa	iter		Sar	npled: 09/0	6/09 12:00			
Naphthalene	8270C STD	ND	0.0034	0.0094	ug/L	lx	50020	09/10/09 15:12	09/15/09 18:38	
2-Methylnaphthalene	н	ND	0.0028	0.012	-	•	. •	•	н	
l-Methylnaphthalene	•	0.0055	0.0011	0.0094 <b>U</b>		•		•	11	البليبي
Benzo[a]anthracene	*	ND	0.0023	0.0094	h	•	μ	•	*	
Acenaphthylene	n	ND	0.0010	0.0094	*	•	н	•	•	
hithracene		0,0015	0.00075	0.0094 🕊		•	H	*	b	الهتر
Chrysene	•	ND	0.0020	0,0094		*	•	•	8	
cenaphthene	•	0.0029	0.00094	0,0094 👢		*		н	•	الهر
Senzo[b]fluoranthene	•	ND	0.0025	0.0094	u	п	*	•	н	
luoranthene		0.0026	0.0015	0.0094	*	•	н	•		أبيله
Senzo[k]fluoranthene	•	ND	0.0023	0.0094	•	*	ű.	u		
Tuorene	"	0,0046	0.0011	0.0094	'n	•	•	-		ابتلم
yrene	ч	0.0017	0.0016	0.0094 <b>L</b> L		•		•	•	J.
lenzo[a]pyrene	ь	ND	0.0018	0.019		•	-	ħ	ď	
henanthrene		0.0069-	0.0010	ئرا 0,0094	. "	=		•		بهلو
ndeno[1,2,3-cd]pyrene	п	ND	0.0019	0.0094	#	•		٠	•	
Dibenz(a,h)anthracene	v	ND	0.0017	0,0094	11	•	. •		•	
enzo[g,h,i]perylene		ND	0.0019	0.0094	*	•		n		
Surrogale(s): Nitrobenzene-d5		-	104%		4	0 - 110 %	,		"	
2-Fluorobipheny!			90%		5	0 - 110 %	,,		"	
Terphenyl-di 4			108%		.5	0 - 135 %	n.		. #	
SI0032-17 (G-RS3DSW-090609)		Wa	ter		San	opled: 09/0	6/09 11:40			
aphthalene	8270C STD	ND	0.0034	0.0094	ug/L	1×	50020	09/10/09 15:12	09/15/09 18:58	*
Methylnaphthalene		ND	0.0028	0.012	•	•	4	•	•	
Methylnaphthalene	•	0.006T	0.0011	0.0094	*			. *	н	ابهلب
enzo[a]anthracene	# "	ND	0.0023	0.0094		•	N .	*	•	•
cenaphthylene .	H	ND	0.0010	0,0094	#			,	-	
nthracene		0.0016	0.00075	0.0094		ħ		. •		راي .
hrysene	, и	ND	0.0020	0.0094	н	•	**	•	н	
сепярh thene	н	0.0029	0.00094	0.0094			*			يبلر
enzo[b]fluoranthene	IJ	ND	0.0025	0.0094			н		н	
uoranthene	н	0.6028	0.0015	0.0094		H	n	•	и	盐
enzo[k]fluoranthene	w	ND	0.0023	0.0094		•	*	•	h	
luorene	•	2.0040	0.0011	0.0094			-	T		14,
yrene		0.0027	0.0016	0.0094	•			-	•	الهاؤ
cnzo[a]pyrene		סא	0.0018	0.019	-	•		•	π	=
henanthrene		0,0063	0.0010	-0,0094 LA	- 4					هزار —

TestAmerica Spokane

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Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created: 10/28/09 11:16

### Semivolatile Organic Compounds (GC/MS SIM)

			TestAm	erica Tac	oma			·		
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-17 (G-RS3DSW-090609)		Wı	iter		San	pled: 09/	06/09 11:40			
Dibenz(a,h)anthracene		מא	0.0017	0.0094	11	,	н	*		
Benzo[g,h,i]perylene	U	ND	0.0019	0,0094	*	v	II	4	*	
Surrogate(s): Nitrobenzene-d5			106%		40	- 110%	u .		. "	
2-Fluorobiphenyl			91%		50	- 110 %	77		n	
Terphenyl-d14			107%		50	- 135 %	u u		"	
SSI0032-19 (G-RS4SW-090609)		Wa	iter		Sam	pled: 09/	06/09 13:30			
Naphthalene	8270C STD	2.0076	0.0036	0,0099	JLug/L	lx	50020	09/10/09 15:12	09/15/09 19;18	كالباس
2-Methylnaphthalene	H	_0.011	0.0030	0.013	L		н	7	•	كالبلد
I-Methylnaphthalene		0.11	0.0012	0,0099	ii.	*			•	كيسو
Benzo[a]anthracene	W	0.0077	0.0024	0.0099		•		•	•	1
Acenaphthylene	•	0.0094	0.0011	0,0099	-	•	*	•	•	J
Anthracene	н	0,021	0.00079	0.0099	•	u			•	كالمسعد
Chrysene	` в	0.015	0.0021	0.0099		*	n	ŧ	•	
Acenaph thene	4	0.044	0.00099	0.0099		. •		æ	*	بطرر
Benzo[b] fluoranthene	· =	ND	0.0026	0.0099	н		•	•		
Fluorenthene		0.017	0.0016	0.0099	*	,		•	•	. 🎤
Benzo[k]fluoranthene		ND	0.0024	0.0099	#	. •		•	•	
Fluorene	н	0.13	0.0012	0,0099	π	*	•	. *	*	المطسب
Pyrene		0,039	0.0017	0.0099		4	*	•		الأسر
Benzo[a]pyrene	×	ND	0.0019	0,020	•	#		•	<b>f</b>	
Phenanthreae	H	0.21	0.0011	0,0099	*	•	•		Ħ	B-
Indeno[1,2,3-cd]pyrene	•	ND	0.0020	0.0099	₩.	•	Ħ.	- u	Ħ	
Dibenz(a,h)anthracene	•	ND	0.0018	0.0099	W	•.	u'	•	•	
Benzo[g,h,i]perylene		ИD	0.0020	0.0099	п	. •	•	•	₩.	
Surrogate(s): Nitrohenzene-d5			99%	•	40	- 110 %	m m			,
2-Fluorobiphenyl			84%		50	- 110 %	n		at .	•
Terphenyl-d14			104%		50	- 135 %	n		"	

TestAmerica Spokane

tandi Randee Decker, Project Manager The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name: Project Number: Avery Landing

Project Number: Project Manager:

073-93312-03 Doug Morell Report Created:

10/28/09 11:16

## Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-20 (G-RS5SW-090609)		w	ater		Sam	pled: 09/0	06/09 14:00			
Naphthalene	8270C STD	0.054	0.0039	0,011	ug/L	lx	50020	09/10/09 15:12	09/17/09 17:32	
2-Methylnaphthalene	•	0.013	0.0032	0.014		u	u	π	b	
1-Methyinaphthalene	ч	0.21	0.0013	0.011		*	•	н		
Benzo[a]anthracene	•	ND	0.0026	0,011	•	•	•	•	•	
Acenaphthylene	•	0.0071	0.0012	0,011	•	•	*	ц	•	
Anthracene	•	0.0049	0.00086	0.011	*	н	и .	Д	•	
Chrysene	Ħ	ND	0.0023	0,011		U	ŧ	H	•	
Acenaphthene	•	0.059	0.0011	0,611	•		ь	•	•	
Benzo[b]fluoranthene		ND	0.0028	0.011	•	•		*	a	
Fluoranthene	ħ	0.0038	0.0017	0.011	•		*	•	u	
Benzo[k]fluoranthene	•	ND	0.0026	0,011	77	*	н	*	٠.	
Flaorene		0.097	0.0013	0.011	•	•			•	
Pyrene	ď	0.0049	0.00/8	0.011			π	7	•	
Вепго[в]ругене	•	ND	0.0021	0.022	*	ŗ.			•	
Phenauthrene	•	0,035	0.00/2	0,011		•	h	•	•	
Indeno[1,2,3-cd]pyrene	•	ND	0.0022	0.011	•		•	•	•	
Dibenz(a,h)anthracene	в	ND	0.0019	0.011	. *	*	, .	*	•	
Benzo[g,h,i]perylene		ND	0.0022	0,011	п	. •	*	•	*	
Surrogate(s): Nitrobenzene-d5			95%		40	- 110 %	1)		n,	
2-Fluorobiphenyl			73%			- 110 %	н			
Terphenyl-d14			101%		50	- 135 %	Ħ		n	
SSI0032-21 (G-RS6SW-090609)	•	Wa	ıter		Sam	pled: 09/0	6/09 14:50			
Naphthalenc	8270C STD	ND	0.0036	0,010	ug/L	lx	50020	09/10/09 15:12	09/17/09 17:52	
2-Methylnaphthalene	•	ND	0.0030	0.013	*	•		•	n	
1-Methylnaphthalene	н	0.0056	0.0012	0,010	₩.		•		W	
Benzo[a]anthracene		ND	0.0024	0.010			н	#	R .	
Acenaphthylene										
• •	P .	ND	0.001]	0.010		*	*	4	. *	
Anthracene	H H	ND 0.0015	0.001) 0.00080	0,010 0.010		*	*	4		
	P W 	0.0015			tr и h	# 	# #	*		
Chrysene	H	0.0015 · ND	0.00080	0.010	p p	# # #	17 18	4 vi n		
Chrysene Acenaphthene	# # # # # # # # # # # # # # # # # # #	0.0015 · ND 0.0025	0.00080 0.0021	0.010 0.010	69 24 25 25	# 6 n	# *** *** ***	* * * * * * * * * * * * * * * * * * * *		
Chrysene Acenaphthene Benzo[b]fluoranthene	*	0.0015 ND 0.0025 ND	0.00080 0.0021 0.0010 0.0026	0.010 0.010 0.010 0.010	64 14 15 16 16 16	e d h h	10 10 10 10 10 10 10 10 10 10 10 10 10 1	4 ** ** **		
Chrysene Acenaphthene Benzo[b]fluoranthene Fluoranthene		0.0015 ND 0.0025 ND 0.0025	0.00080 0.0021 0.0010	0.010 0.010 0.010	69 19 19 19 19	# # D P	# # ** ** ** **	* * * * * * * *		
Chrysene Acenaphthene Benzo[b]fluoranthene Fluoranthene Benzo[k]fluoranthene		0.0015 ND 0.8025 ND 0.0025 ND	0.0000 0.0021 0.0010 0.0026 0.0016 0.0024	0.010 0.010 0.016 0.010 0.010	# # # # # # # # # # # # # # # # # # #	e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l	# # # # # # # # # # # # # # # # # # #	* * * * * * * * * * * * * * * * * * *	•	
Acenaphthene Benzo[b]fluoranthene Fluoranthene Benzo[k]fluoranthene Fluorene	*	0.0015 ND 0.0025 ND 0.0025 ND 0.0045	0.0000 0.0021 0.0010 0.0026 0.0016 0.0024 0.0012	0.010 0.010 0.010 0.010 0.010 0.010	# # # # # # # # # # # # # # # # # # #	# # # # # # # # # # # # # # # # # # #	# 10 TO TO TO TO TO TO TO TO TO TO TO TO TO	* * * * * * * * * * * * * * * * * * *	•	
Chrysene Acenaphthene Benzo[b]fluoranthene Fluoranthene Benzo[k]fluoranthene Fluorene	# # # # # # # # # # # # # # # # # # #	0.0015 · ND 0.0025 ND 0.0025 ND 0.0045 6.0022	0.0000 0.0021 0.0010 0.0026 0.0016 0.0024	0.010 0.010 0.016 0.010 0.010	# # # # # # # # # # # # # # # # # # #	# # #	# H H H H H H H H H H H H H H H H H H H	* * * * * * * * * * * * * * * * * * *	•	
Chrysene Acenaphthene Benzo[b]fluoranthene Fluoranthene Benzo[k]fluoranthene Fluorene	# # # # # # # # # # # # # # # # # # #	0.0015 ND 0.0025 ND 0.0025 ND 0.0045	0.00080 0.0021 0.0010 0.0026 0.0016 0.0024 0.0012	0.010 0.010 0.010 0.010 0.010 0.010 0.010		#	** ** ** ** ** ** ** ** ** ** ** ** **	*		

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

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SPOKANE, WA

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**Avery Landing** Project Name:

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created:

10/28/09 11:16

# Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-21 (G-RS6SW-090609)			ater		Sam	pled: 09/	06/09 14:50			
Dibenz(a,h)anthracene	8270C STD	ND	0.0018	0.010	ug/L	lx	50020	09/10/09 15:12	09/17/09 17:52	
Benzo(g,h,i)perylene ,		ND	0,0020	0.010	•	п	•	h	•	
Surrogate(s): Nitrobenzene-dS			104%		40	7 - 110 %		***************************************	"	
2-Fluorobiphenyl			90%		50	- 110%	"		"	
Terphenyl-d14			104%		50	- 135 %	•	•	u	
SS10032-22 (G-RS7SW-090609)		W	ater		Sam	pled: 09/	06/09 15:20			
Naphthalene	8270C STD	ND	0.0034	0,0095	ug/L	lχ	50020	09/10/09 15:12	09/15/09 13:32	
2-Methylnaphthalene	u	ND	0.0029	0.012	•	-		Ħ	•	
I-Methylnaphthalene	*	_0.0849	0.0011	0.0095 <b>U</b>	٠ ١	-	n	н		بآنر
Benzo[a]anthracene	ь	ND	0.0023	0.0095				•	•	-
Acenaphtbylene	tr	0.0015	0.0010	0.0095		•	, <b>u</b>	н	•	
Anthracene	¥	0,0915	0.00076	0.0095	į.		н	н		بآد
Chrysene	•	ND	0.0020	0.0095	н	-		. 11	н	
Acenaphtheae		0.0051	0.00095	0.0095	ι.			и		سلا
Benzo[b]fluoranthene		ND	0.0025	0,0095	. •	•		*		-
Fluoranthene	•	0.0033	0.0015	0,0095	٠.	ю -	h	•	*	بالو
Benzo[k]fluoranthene	•	ND	0.0023	0,0095		-		•		
Muorene	Ħ	0.0047	0.0011	0,0095 U	. *		*		•	ملر
Pyrene	*	0.0054	0.0016	0.0095		*	•	W	*	سقر
Benzo[a]pyrene		. ND	0.0018	0,019	II.	•	11		*	•
Phenanthrene	•	0.0034	0.0010	0.0095 <b>U</b>	*	•	н	H	*	ستند
Indeno[1,2,3-cd]pyrene	•	ND	0.0019	0,0095	<b>π</b>	ŧř		•	*	
Dibenz(a,h)anthracene	•	ND	0.0017	0,0095	77	*		<b>u</b> .	*	,
Benzo[g,h,i]perylene	h	ND	0.0019	0.0095	*		*	ď	<b>e</b> .	
Surrogate(s): Nitrobenzene-d5			104%		40	- 110 %	#	·	н	
2-Fluorobiphenyl			89%		50	- 110 %	Ħ		п	
Terphenyl-d14			95%		.50	- 135 %	Ħ		<i>π</i>	
SSI0032-23 (G-RS8SW-090609)		Wa	ter		Sam	pled: 09/	06/09 16:25	,		
Naphthalene	8270C STD	ND	0.0034	0.0095	ug/L	1x	50020	09/10/09 15:12	09/17/09 18:12	
-Methylnaphthalene		ND	0.0029	0,012	n'	•	H	•	tt	
-Methylnaphthalene		0,0041	0.0011	0,0095	H		H	н		
Benzo[a]anthracene	H	ND	0.0023	0.0095				Ψ.	н	
Acenaphthylene	н	ND	0.0010	0.0095		*	h	#	π	
nthracene	ħ	0,0011	0.00076 .	0.0095	•		п	. "	H	
Chrysene		ND.	0.0020	0,0095	-	-				

TestAmerica Spokane

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<u>(arai)</u> Randee Decker, Project Manager





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Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number, Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 11:16

### Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-23 (G-RS&SW-090609)		W	nter		Sam	pled: 09/	06/09 16:25			
Benzo[b]fluoranthene	8270C STD	ND	0.0025	0,0895	ug/L	1x	50020	09/10/09 15:12	09/17/09 18:12	
Fluoranthene	•	0.0022	0.0015	0.0095		•		•	•	
Benzo[k]fluoranthene	*	ND	0.0023	0.0095		•	•	•	*	
Fluorene	•	0.0026	0.0011	0.0095	•	-	•	•		
Pyrene	*	0.6023	0,0016	0.0095		•		н		
Benzo[a]pyrene	٠	ND	0.0018	0.019		•	*	*	N	
Phenanthrene		0.0033	0.0010	0.0095	=		*	**		
Indeno[1,2,3-cd]pyrene	•	ND	0.0019	0,0095	•	ii ii	н		ĸ	
Dibenz(a,h)anthracene	н .	ND	0.0017	0,0095			P	•	•	
Benzo[g,h,i]perylene	. **	ND	0,0019	0.0095	н	•	P		N	
Surrogate(s); Nitrobenzene-d5			105%		40	- 110 %	,,		n	
2-Fluorobiphenyl			95%		50	- 110 %	27		"	
Terphenyl-d14			111%		50	- 135 %	#		n	

TestAmerica Spokane

Randee Decker, Project Manager

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Project Name:

**Avery Landing** 

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created: 10/28/09 11:16

# Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-05	(G-P101OFT-090409)		Ot	ier (L)		Sam	pled: 09/(	04/09 17:30			
1-Methylnapth:	alene	EPA 8270 mod	114		2.88	mg/kg	lx	9090081	09/11/09 13:20	09/13/09 18:25	
2-Methylnapht	palene		48,3		2,88	*		۳.	н	B	
Acenaphthene		a .	29,2		2.88	•	•	•	n	•	
Acenaphthylene		7	ND	_	2.88			M	#		
Anthracene			33,5		2.88	*	•		n .	•	
Benzo (a) anthr	acene		4.42	_	2.88	•	•	•	*		
Benzo (2) pyred	ė ,	π	4.62	-	2.88	•	•		•	•	
Benzo (b) fluore	nthene	•	ND	-	2.88	•		•	n	*	
Benzo (ghi) per	ylene	n	14.0	-	2.88	*		7	ч .		
Benzo (k) fluora	nthene	н	ND		2.88	н	ŧ	п	н		
Chrysene		•	9.04		2,88	•		b	*	π	
Dibenzo (a,h) a	thracene	•	9.62		2,88	•			*	*	
Fluoranthene	•	(1	8,27		2,88	•	•		•		
Fluorene			45.6		2.88		•		ď		
Indeno (1,2,3-cd	) pyrene	•	10.2		2,88		٠,	•	H .		
Naphthalene			13,3		2,88	•	•	•		•	
Phenanthrene		м	88.8		2.88		•	*	7	•	
Pyrene		1)	22.7	****	2.88	٠.	. *	•	47	•	
Surrogate(s	): Z-FBP			104%		34.5	- 148 %	į.		N	
	Nitrobenzene-d5			103%		33.	- 141 %	n		н	
	p-Terphenyl-d]4			120%		37.8	- 150 %	n		er .	•
SSI0032-10	(G-RS5FP-090509)		Oth	er (L)		Samp	led: 09/0	5/09 15:00			
I-Methylnaptha	lene	EPA 8270 mod.	15,3		3.06	mg/kg	lx	9090081	09/11/09 13:20	09/13/09 23:47	,
2-Methylnaphtha	l <u>e</u> ne	•	ND	_	3.06				•	•	
Acenaphthene		7	33.1		3,06	n	N		•	•	
Acenaphthylene		•	ND		3.06	•			•	•	
Anthracene		•	96.9		3.06	•	•			п	
Benzo (a) anthra	icene		19,2		3,06		٠.		•	•	1
Benzo (a) pyren		M	8,57	-	3.06					• ,	
Benzo (b) fluora		м	ND	_	3.06	•		*			,
Benzo (ghi) pery	lene	Ħ	9.59	_	3.06		#	π	ú		
Benzo (k) fluoras			ND		3.06		•	а	#	•	
Chrysene		-и	45.7	<b>-</b>	3.06	77			M -		- J
Dibenzo (a,h) an	fbracene	**	4.29		3,06	•					
Auoranthene			9.18		3.06			•	•		
Auorene	•	•	86.3		3.06			. •	п	**	
ndeno (1,2,3-cd)	pyrene	н	4.49		3.06	*			**	•	

TestAmerica Spokane

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Project Name: Project Number: Avery Landing

Project Number: 073-93312-03 Project Manager: Doug Morell Report Created: 10/28/09 11:16

# Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

			TestAme								_
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Not	<b>5</b>
SSH0032-10 (G-RS5FP-090509)	***************************************		er (L)				5/09 15:00	***********		<del></del>	
henanthrene	EPA 8270 mod	205	-	3.06	mg/kg	IX	9090081	09/11/09 13:20	09/13/09 23:47		
угене	• • • • • • • • • • • • • • • • • • •	118	·	3,06	*		*		<u> </u>		
Surrogate(s): 2-FBP			97.4%		34.5	- 148 %	n	•	*		
Nitrobenzene-d5		,	93,4%			- 141 %	Ħ		л		
p-Terphenyl-d]4			142%		37.8	- 150 %	#		*	101	
SI0032-11 (G-RS4FP-090509)		Oth	er (L)		Sam	oled: 09/0	5/09 16:08				
Methylnapthalene	EPA 8270 mod	328		3.06	mg/kg	lx	9090081	09/11/09 13:20	09/14/09 00:08		
Methyloaphtbalene	ш	35.3	-	3.06		•	N	**	7		
cenaphthene	n	100	_	3.06	*	*	<b>#</b>	н .	Ħ		
сепарыну lene	•	ND	_	3.06	H		*	•	*		
nthracene		120	_	3.06		•	*	H	•		
enzo (a) anthracene	•	ND U	<b>5</b> —	3.06	•	•	•	•	•	<b>T</b> 01	
епго (я) ругене	#	11,0	<b>-</b>	3.06		В		#			1
enzo (b) fluoranthene	П	ND U	T —	3.06	<b>M</b>	•	*	•		101	
enza (ghi) perylene	•	12.2 \	_	3.06	•	*	н	41	. •		]
enzo (k) fluoranthene		ND UC	<b>y</b>	3,06	•	•			*	101	
hrysene	<b>B</b>	50.6 J		3.06	•	•	*	•			1
ibenzo (a,h) anthracene	•	4.90 J		3.06		Ħ	N	*			1
worauthene	и	15.1		3.06	•	а	H	*	н		
uorene	*	178	<b>-</b>	3,06	. 4	*	41	Ħ	h		
dene (1,2,3-cd) pyrene	•	3.88 🗓		3.06	н	#	er	•	B		3
aphthalene		ND		3.06	*	11	<b>•</b> •	•	•		
benanthrene	•	292		3.06		,	•		•		
rene		161 🎝	<u> </u>	3,06	н	π			<b>,</b>		. 1
Surrogate(s): 2-FBP			38.4%			- 148 %	"		n		
Nitrobenzene-d5			55.8%			141%			H H		
p-Terphenyl-d14			170%		37.8	. 150 %	•			101, ZX	
SI0032-12 (G-RS3FP-090509)		Oth	er (L)		Samp	led: 09/0	5/09 16:35		<u> </u>		
Methylnapthalene	EPA 8270 mod.	63.1	<del>-</del>	3.12	mg/kg	lx	9090081	09/11/09 13:20	09/13/09 20:55		
Methylnaphthalene	•	ND	_	3,12	и	•		. •	•		
enaphthene		30,2		3.12	<b>"</b> .	*	*	•	<b>*</b>		
cenaphthylene	. "	ND	_	3.12	•	•	*	•	•		
othracene		50.4		3.12	h	-	H	•	•		
enzo (a) anthracene	•	10.4	_	3.12	•	*		4	r		
enzo (a) pyrene	*	3,96	-	3.12	Ħ	P	W				
enzo (b) fluoranthene		ND		3.12	h		,		*		
enzo (ghi) perylene	•	3.12	_	3.12	•		•	*	•		

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Project Name: ·

**Avery Landing** 

18300 NE Union Hill Rd, Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/28/09 11:16

# Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

-				TESTALIFE	nea spo	Kano					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
SS10032-12	(G-RS3FP-090509)		Otl	er (L)		Sam	pled: 09/(	5/09 16:35			
Benzo (k) fluora	inthene	EPA 8270 mod.	ND		3.12	mg/kg	lx	9090081	09/11/09 13:20	09/13/09 20:55	
Chrysene			23.1		3,12	•	*	•	n	•	
Dibenzo (a,h) ar	nthracene	•	ND		3,12		a	•	•	•	
Fluoranthene		•	9,38	_	3.12	v	•	•		n	
Fluorene		•	45.6		3.12	* .	4	•	b	11	
Indeno (1,2,3-∞	) pyrene	•	ND		3.12		*	*	*	<b>π</b>	
Naphthalene		•	7.29	_	3.12		•	*	и	*	
Phenanthrene		•	84,0		3.12	•	*	•	-		
Pyrene		•	55,8		3,12	•		•		•	
Surrogate(s	:): 2-FBP			95.4%		34.5	- 148 %	11		#	
	Nitrobenzene-d5			101%		33	- 141.%	**		"	
	p-Terphenyl-d14			133%		37.8	- 150 %	,,		н	
SSI0032-13	(G-RS3aFP-090509)		Oth	er (L)		Samj	pled: 09/0	5/09 17:00			
-Methyloaptha	dene	EPA 8270 mod	47.6		2.73	mg/kg	lx	9090081	09/11/09 13:20	09/13/09 19:08	
-Methylnaphti	nalene	•	45.6	_	2.73	,	•			*	
Acenaphthene		•	16.5	_	2,73		Ħ	*	-	*	
Acenaphthylene		U	ND		2.73	h	₹ .		•	Ħ	
Anthracene		•	20,2		2.73	•	**	•	N	•	
Benzo (a) authr	acene -		3,27		2.73	. •		E .	N	*	
Benzo (a) pyrene	:	•	ND	_	2,73	•	#		k		
Benzo (b) fluora	nthene	•	ND	. —	2.73		**	•	•		
Benzo (gbi) perj	ylene	*	3.64	_	2,73	•	**	*	**	•	
Benzo (k) fluora	nthene	*	ND		2,73	•		"	n	•	
Chrysene		R	7.27		2.73			11	*	ŧ	
Dibenzo (a,b) ar	ithracene	. *	2.73	_	2.73	•	•	(1	**	•	
Ivoranthene		*	4.00		2.73	n		•			
Juorene		71	25,3		2.73	×	•	'n			
ndeno (1,2,3-cd	) pyrene	•	2.91	_	2.73	•	w	7	*	*	
iaphtimiene		•	6.91		2.73	•	•		•	•	
henanthrene			47.8	-	2.73	*	•	h+	н	•	
угеле		я 	15.3		2,73			U			
Surrogate(s)	): 2-FBP			104%		34.5	148 %	. 11.		n n	
	Nitrobenzene-d5			104%		33 -	- 141 %	lr .		*	
	p-Terphenyl-d14			110%		37.8	- 150 %				

TestAmerica Spokane

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L NAPL Surple

SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell Report Created: 10/28/09 11:16

Polychlorinated Biphenyls by EPA Method 8082  TestAmerica Spokane												
Analyte		Method	Result (	2 MDL.	MRL	Units	Dil	Batch	Prepared	Analyzed		Notes
SS10032-05	(G-P101OFP-090409)		0	ther (L)		Sam	pleđ: 09/	04/09 17:30				С
PCB-1016		EPA 8082	ND	は」 —	0,943	mg/kg	lx	9090119	09/18/09 08:06	09/18/09 18:14		
PCB-1221		•	ND	(	0,943	*	•					
PCB-1232		•	ND	/	0.943	•	•		•	*		
PCB-1242		в .	ND	<b>\</b>	0.943	•	•		•	*		
PCB-1248			ND	(	0.943	4	•		•			
PCB-1254		•	ND	<b> -</b>	0.943	n	•		π'			
PCB-1260		•	ND	<b>V</b> —	0.943	*			π			
Surrogate(s)	): TCX			83.6%		50	- 150 %	#		п		
•	Decachlorobiphenyl			41.0%		50	- 150 %	π		, N	Z	
SS10032-10	(G-RS5FP-090509)		O	ther (L)		Samj	pled: 09/	05/09 15:00				C
PCB-1016		EPA 8082	ND	UT —	0,962	mg/kg	1x	9090119	09/18/09 08:06	09/18/09 18:37		
PCB-1221		π	ND	]	0.962		•	4	a			
PCB-1232		в	ND	}	0.962	•	-	•	•			
PCB-1242		<b>N</b>	ND	\	0.962	•	. •	н	-	•		
PCB-1248		я	ND	<b> </b>	0.962		*	•	₹	u .		
PCB-1254		e e	ND	} —	0.962	н	н		•			
PCB-1260	•		ND	<b>y</b> —	0.962		•	•		•		
Surrogate(s)	: TCX			79.2%		50	- 150 %	n		. и		
	Decachlorobiphenyl			38.8%		50	- 150 %	п		Ħ	z	
SS10032-11	(G-RS4FP-090509)		Ot	ther (L)		Sampled: 09/05/09 16:08		05/09 16:08				C
PCB-1016	•	EPA 8082	ND (	15-	0.980	mg/kg	1x	9090119	09/18/09 08:06	09/18/09 19:00		
PCB-1221 .		, it	ND	1 -	0.980	#	n	•	•	•		
PCB-1232		Ä.	ND	<b> </b>	0.980	ti	**	•	•	•		
PCB-1242		n	ND		0.980		•	*	•	•		
PCB-1248		•	· ND	<b>)</b> —	0.980	*	•	*	•	•		
PCB-1254		•	ND	} —	0.980		•	•	•	* .		
PCB-1260		*	ND '	<b>∳</b> . —	0,980	•		• ,		•		
Surrogate(s)	: TCX			86.9%		50	- 150 %	"		, <b>n</b>		

	_			
Test	Ame	शांद्य	Sno	kanı

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Randee Decker, Project Manager

Decachlorobipheny!



34.9%

50 - 150 **%** 



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/28/09 11:16

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

	<u> </u>		20 mm							_
Analyte	Method	Result 🚱	údl• mri	. Units	Dil	Batch	Prepared	Analyzed	Notes	_
SSI0032-12 (G-RS3FP-090509)		Other	(L)	Sam	pled: 09/	05/09 16:35				C
PCB-1016	EPA 8082	ND LLT	0.877	mgAkg	lx	9090119	09/18/09 08:06	09/18/09 19:22		
PCB-1221	•	ND (	0.877	ŕ	μ.		7	н		
PCB-1232	•	ND /	D.877	•	'n	•	•	•		
PCB-1242	n	ND \	· 0,877	4	T	'n	tr			
PCB-1248	•	ND	0,877	h	₩.	•	ŧ	•	-	
PCB-1254	• '	ND {	0,877	*			*	н ,		
PCB-1260	•	ND ¥	0.877	•	•	•	*	09/18/09 19:45		
Surrogate(s): TCX		80.8	96	50	- 150 %		<del></del>	09/18/09 19:22		_
Decachlorobiphenyl		48.6	%	50	- 150 %	n		" 2	<b>5</b> .	
SSI0032-13 (G-RS3aFP-090509)		Other (	L)	Sam	pled: 09/(	5/09 17:00				C7
PCB-1016	EPA 8082	ND	2.38	mg/kg	lx	9090119	09/18/09 08:06	09/18/09 19:45		
PCB-1221	Ħ	ND	2,38	•	n	4	H			
PCB-1232	•	ND	2.38	•	•		n			

VOX 10-09

2,38 2,38

2,38

2.38

50 - 150 %

50 - 150 %

ND

NĐ

ND

ND

76.2%

50.3%

TestAmerica Spokane

PCB-1242

PCB-1248

PCB-1254

PCB-1260

Surrogate(s):

TCX

Decachlorobiphenyl

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Randee Decker, Project Manager



09/18/09 20:08

09/18/09 19:45



11922 E. 15T AVENUE SPOKANE VALLEY, WA 992D6-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/28/09 11:16

### Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

TestAmerica Tacoma

									• • • • • • • • • • • • • • • • • • • •		-
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
ST0032-21	(G-RS6SW-090609)		Wa	ter		Sam	pled: 09/	06/ <b>09</b> 14:50			
CB-1016		8082 STD	ND	0.0045	0.050	ug/L	lχ	50020	09/10/09 15:12	10/20/09 18:57	
CB-1232		n	ND	0.004]	0.050	•	•	•	•	•	
CB-1221		•	ND	0.0062	0,050	٠	•	•	•	•	
CB-1242		<b>(4)</b>	ND	0.0041	0.050	h		•	•		
CB-1248		₩.	ND	0.0071	0,050	•	*	*	•		
CB-1254	•	п	ND	0.0044	0,050	•		*	•	•	
CB-1260		•	ND	0.0039	0.050	•	•	*	u	•	
SI0032-21RE1	(G-RS6SW-090609	)	Wa	ter		Sam	pled: 09/0	6/09 14:50			
CB-1016		8082 STD	ND	0.045	0,50	ug/L	lx	51857	10/12/09 15:10	10/13/09 19:35	
CB-1232		•	ND	0.041	0.50			*	<b>1</b>	•	
CB-1221		n .	ND	0.062	0.50	*:	-	'n	Ħ	*	
CB-1242			ND	0.041	0,50	-		P	h	. 1	
CB-1248		п	ND	0.071	0.50		h	e	. "	*	
CB-1254		et .	ND	0.044	0.50		n		Ħ	•	
CB-1260		•	ND	0.039	0.50	•	•	. *	₩.	•	
S10032-21RE2	(G-RS6SW-090609)	)	Wat	ter		Sam	pled: 09/0	6/09 14:50			
CB-1016		8082 STD	ND UC	0.0045	0.050	ug/L	1x	52716	10/12/09 15:10	10/23/09 17:34	
CB-1232	-		ND \	0.0041	0.050	n	•	7	н	H	
CB-1221		W	ND (	0.0062	0.050		**	W			
CB-1242		_	. 1								
		•	ND (	0.0041	0.050	D	Ħ	•		n	
CB-1248	4	4	ND (	0.0041 0.0071	0.050 0.050	P	ŧ1	B.	,	n n	
			i i				-		# #	N N	
CB-1254	•		ND \	0.0071	0.050		-		19 19 • N	R R P	
CB-1254	Tetrachioro-m-xylene DCB Decachlorobiphe	" "	ND ND	0.0071 0.0044	0.050 0.050	60	-		· H	" X	
CB-1254 CB-1260 Surrogate(s):	•	nyi	ND ND	0.0071 0.0044 0.0039 56% 53%	0.050 0.050	60 40	- 150 % - 135 %	N N		ж	
CB-1254 CB-1260 Surrogate(s): S10032-22	DCB Decachlorobiphe	·	ND ND ND	0.0071 0.0044 0.0039 56% 53%	0.050 0.050 0.050	60 40 Samj	- 150 % - 135 % Died: 09/0		09/10/09 15:12	n	
CB-1254 CB-1260 Surrogate(s): S10032-22 (CB-1016	DCB Decachlorobiphe	77)/ 8082 STD	ND ND Wat	0.0071 0.0044 0.0039 56% 53% ter 0.0043	0.050 0.050 0.050	60 40	- 150 % - 135 %	14 H	. O9/10/09 15:12	ж	
CB-1254 CB-1260 Surrogate(s): S10032-22 (CB-1016 CB-1232	DCB Decachlorobiphe	·	ND ND Wat	0.0071 0.0044 0.0039 56% 53% ter 0.0043 0.0039	0.050 0.050 0.050 0.050	60 40 Samp	- 150 % - 135 % Died: 09/0	" " " " " " " " " " " " " " " " " " "		n	
CB-1254 CB-1260 Surrogate(s): S10032-22 ( CB-1016 CB-1232 CB-1221	DCB Decachlorobiphe	·	ND ND ND ND ND ND ND	0.0071 0.0044 0.0039 56% 53% ter 0.0043 0.0039 0.0059	0.050 0.050 0.050 0.050	60 40 Samj	- 150 % - 135 % Died: 09/0			n	
CB-1254 CB-1260 Surrogate(s): S10032-22 ( CB-1016 CB-1232 CB-1221 CB-1242	DCB Decachlorobiphe	·	ND ND ND ND ND ND ND ND	0.0071 0.0044 0.0039 56% 53% ter 0.0043 0.0039 0.0059 0.0039	0.050 0.050 0.050 0.050 0.048 0.048 0.048		- 150 % - 135 % Died: 09/0			n	
	DCB Decachlorobiphe	·	ND ND ND ND ND ND ND	0.0071 0.0044 0.0039 56% 53% ter 0.0043 0.0039 0.0059	0.050 0.050 0.050 0.050	60 40 Samp	- 150 % - 135 % Died: 09/0	6/09 15:20 50020		n	

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11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99205-S302 ph: (509) 924.9200 fax: (509) 924.9290

____

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Golder Associates, Inc.

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/28/09 11:16

### Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

TestAmerica Tacoma

	<b>-</b>			TestAme	rica Tac	oma				·	
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-22RE1	(G-RS7SW-090609)		W	iter		Sam	pled: 09/0	6/09 15:20			
PCB-1016	80	82 STD	ND	0.0044	0,049	ug/L	1x	52716	10/12/09 15:10	10/23/09 17:50	
PCB-1232		P	ND	0.0040	0,049	*	*	1)	W	•	
PCB-1221		*	ND	0.0060	0.049	•		*	n		
PCB-1242		•	ND	0.0040	0.049	•	**	•	n		
PCB-1248		•	ND	0.0069	0.049	•		p	*		
PCB-1254		•	ND	0.0043	0.049	#	h		•	*	
PCB-1260		•	ND	0.0038	0,049	*		•	•	•	
Surrogate(s):	Tetrachloro-nt-xylene			61%		60	- 150 %	N		н	
	DCB Decachlorobtphenyl			61%		40	- 135 %	"	•	н	
SS10032-23 (	G-R\$8SW-090609)		Wa	iter		Sam	pled: 09/0	6/09 16:25	-		
PCB-1016	80	B2 STD	ND	0.0043	0,048	ug/L	lx	50020	09/10/09 15:12	10/20/09 19:44	
PCB-1232		•	ND	0.0039	0.048		н		*	•	
PCB-1221	1	•	ND	0.0059	0,048	•	fi	н	н	17	
PCB-1242	•	•	ND	0.0039	0,048	* *	н		D	•	
PCB-1248	1	•	ND	0.0068	0.048	•		•	•	<b>#</b>	
PCB-1254	•	•	ND	0.0042	0.048	•	н	•	п	•	
PCB-1260	,	•	ND	0.0037	0.048	•	•	•	н	•	
SSI0032-23RE1	(G-RS8SW-090609)		Wa	ter		Sam	pled: 09/0	6/09 16:25			
PCB-1016	80	82 STD	ND	0.0043	0.048	ug/L	lx -	52716	10/12/09 15:10	10/23/09 18:36	
PCB-1232	•	ı	ND	0.0039	0,048	•		h	•.		
PCB-1221	•	1	ND	0.0059	0.048	•	•	۲		•	
PCB-1242	•	•	ND	0.0039	0,048		*		n	н.	
CB-1248	•	•	ND	0.0068	0.048	•		н	Ħ	M	
CB-1254	· •	•	ND	0.0042	0,048		'n		8	<b>i</b>	
PCB-1260	•	•	ND	0.0037	0.048	*		•		*	
Surrogate(s):	Tetrachloro-m-xylene	<u> </u>		68%		60	- 150 %	N		п	
•	DCB Decachlorobiphenyl			66%		40	- 135 %	tr	•	н	

TestA	merica	Spoi	kane

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number. Project Manager:

073-93312-03 Doug Morell

Report Created: 10/28/09 11:16

### Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

Analyte		Method	Result 6	MDL*	MRL	Voits	Dil	Batch	Prepared	Analyzed	Note
SS10032-06	(C CA1 000500)	метоц		ater	- MILLED			)5/09 09:40	Tichaten	Analy200	14016
	(G-GA1-090509)	8082 STD		0,0042	0.047		lyseu: U2/1	50020	09/10/09 15:12	10/20/09 16:53	
PCB-1016		808251D	ND		0.047	ug/L	•	50020	09/10/09 15:12	10/20/09 10:53	
PCB-1232			ND	0.0039 0.0058	0,047				" n		
PCB-1221			ND		0.047						
PCB-1242 PCB-1248			ND ND	0.0039 0.0067	0.047			,	 h		
PCB-1246 PCB-1254			עא מא	0.0007	0.047						
PCB-1254 PCB-1260			ND ND	0.0042	0.047			U	n		
PCB-1200			ND	0.0037	0.047						
S10032-06RE	1 (G-GA1-090509)		w	ater		Sam	pled: 09/0	5/09 09:40			
PCB-1016		8082 STD	ND	0.042	0,47	ug/L	1x	51857	10/12/09 15:10	10/13/09 17:16	
PCB-1232		•	ND	0.039	0.47	•	e		*	•	
PCB-1221		•	ND	0.058	0.47			•	*		
PCB-1242		Ħ	ND	0.039	0.47					•	
PCB-1248		•	ND	0.067	0.47		4		н	*	
PCB-1254			ND	0.042	0.47	**	•		h	*	
PCB-1260		н	, ND	0.037	0.47	7	4		п	•	
SI0032-06RE	2 (G-GA1-090509)		w.	ater		Sam	pled: 09/0	5/09 09:40			
PCB-1016		8082 STD		<b>5</b> 0.0042	0.047	ug/L	lx	52716	10/12/09 15:10	10/23/09 15:15	
PCB-1232		P	ND !	0.0039	0.047	 h	,,		н	н .	
PCB-1221		н	ND	0.0058	0.047		**	Ħ	lı		
PCB-1242		ŧ	ND	0.0039	0.047		•	•		н	
PCB-1248			ND	0.0067	0,047		п	**			
PCB-1254			ND	0.0042	0.047		**			•	
PCB-1260		ji	ND 1	0.0037	0.047	•	#			H	
Surrogate(s)	Tetrachloro-m-xylene			59%		60	- 150 %	и		" X	
	DCB Decachlorobiphe.	nyl .		33%		40	- 135 %	u .		" X	
S10032-09	(G-EB-090509)		Wı	ater		Sam	pled: 09/0	5/09 14:00			
CB-1016		8082 STD	NID	0.0042	0.047	ug/L	lx	50020	09/10/09 15:12	10/20/09 17:09	•
CB-1232		•	ND	0.0039	0.047	•			•	-	
CB-1221		•	ND	0.0058	0,047	•	н,	n	•	•	
PCB-1242		, n	ND	0.0039	0.047		*	н	•	*	
CB-1248		n	ND	0.0067	0.047		•	w	*	•	
- AD 1064		H	ND	0,0042	0.047					<b>"</b>	
PCB-1254			110	0,0012	0.011						

TestAmeric	a Spokane
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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200 Redmond, WA 98077 Project Name:

**Avery Landing** 

Project Number. Project Manager: 073-93312-03 Doug Morell Report Created:

10/28/09 11:16

### Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-09RE1	(G-EB-090509)		W	ater		Sam	pled: 09/0	5/09 14:00			
PCB-1016		8082 STD	ND	0.0043	0,048	ug/L	1x	52716	10/12/09 15:10	10/23/09 15:30	
PCB-1232		*	ND	0.0039	0,048			*	•	n	
PCB-1221		*	ND	0.0060	0,048	r	þ	×		u	
PCB-1242		•	ND	0.0039	0,048	h		h	**	Ŕ	
PCB-1248		*	ND	0.0068	0,048	7	•		#	н	
PCB-1254			ND	0.0042	0,048	**	н	*	M	н	
PCB-1260		•	ND	0.0038	0,048	11	. "	•	•	¥	
Surrogate(s):	Tetrachloro-m-xylene		1	69%		60	- 150 %	4		"	
	DCB Decachlorobipheny	1		66%		40	- 135 %	r		и	
SI0032-14 (	G-RS1SW-090609)		Wa	ater		Sam	pled: 09/0	6/09 09:45			
CB-1016		8082 STD	ND	0.0043	0.04B	ug/L	lx	50020	09/10/09 15:12	10/20/09 17:24	
PCB-1232		•	ND	0.0039	0.048	•		•	*	H	
PCB-1221		• `	ND	0.0060	0.04B	10	•	•	*	•	
PCB-1242		•	ND	0.0039	0,04B	*			H		
PCB-1248		•	ND	0.0068	0.048	-	M			*	
PCB-1254		•	ND	0,0042	0.048	#	•	π	•	•	
CB-1260		•	ND	0.0038	0.048	•	×	•	•	•	
SI0032-14RE1	(G-RS1SW-090609)		Wa	iter		Sam	pted: 09/0	6/09 0 <b>9:45</b>			
CB-1016		8082 STD	, ND	0.0045	0,050	ug/L	lx	52716	10/12/09 15:10	10/23/09 15:46	
CB-1232		• .	ND	0.0041	0.050	п			*	н	
CB-1221		•	ND	0.0062	0,050	*	• ,	•	11	н	
CB-1242		•	ND	0.0041	0,050	*	Ħ	•	Ħ	н	
CB-1248		41	ND	0.0071	0,050	•	н		**	₩.	
CB-1254		•	ND	0.0044	0.050	•		•		*	
CB-1260		•	ND	0.0039	0,050	•	×	*		Ħ	
Surrogate(s):	Tetrachloro-m-xylene			63%		60	- 150 %	H		н	
	DCB Decachlorobinhenvi	,		62%		40	- 135 %			n	

FestAmerica Spokan
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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E, 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/28/09 11:16

### Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-15	(G-RS2SW-090609)	<del>".</del>	w	ater		Sam	pled: 09/(	06/09 10:45			
PCB-1016		8082 STD	ND	0.0045	0.050	ug/L	lx	50020	09/10/09 15:12	10/20/09 17:40	
PCB-1232		,	ND	0.0041	0.050			и	•		
PCB-1221		U	ND	0.0061	0.050	и	•	*	"	4	
PCB-1242		и	NĐ	0.0041	0,050	н		i	*		
PCB-1248		н	ND	0.0070	0.050	n				•	
PCB-1254		и	ND	0.0044	0,050	. н			11	*	
PCB-1260		*	ND	0.0039	0.050	"	*	•	4	*	
SS10032-15RE	1 (G-RS2SW-090609)		W	ater		Sam	pled: 09/0	06/09 10:45			
PCB-1016		8082 STD	ND	0.0043	0.048	ug/L	lx	52716	10/12/09 15:10	10/23/09 16:01	
PCB-1232		•	ND	0.0039	0.048	*	*	•	•	*	
PCB-1221		4	ND	0.0059	0.048	**	H	и	7	*	
PCB-1242	•	•	ND	0.0039	0.048	*	π	*	×	*	
PCB-1248		v	ND	0.0068	0.048	٠,	#	*	•	•	
PCB-1254		,	ND	0.0042	0.048	•		•	H	*	
PCB-1260		•	ND_	0,0037	0.048	•					
Surrogate(s)	: Tetrachloro-m-xylene			72%		60	- 150 %	"	_	a.	
	DCB Decachlorobiphen	νI		67%		40	- 135 %	ц	·	Ħ	
SSI0032-16	(G-R\$3SW-090609)		W	ater .		Sam	oled: 09/0	6/09 12:00			
PCB-1016		8082 STD	ND	0.0042	0.047	ug/L	lx	50020	09/10/09 15:12	10/20/09 17:55	
PCB-1232			ND	0.0039	0,047		•	. •	•	*	
PCB-1221		•	ND	0.0058	0.047	*	•	•	•	н	
PCB-1242		n	ND	0.0039	0,047	π				k.	
PCB-1248		ti .	ND	0.0067	0,047		•	7		#	
CB-1254		"	ND	0.0042	0.047	*	ir .	•		•	
CB-1260		11	ND	0.0037	0.047	*	•	*	**	W	•
SI0032-16RE	(G-RS3SW-090609)		Wa	nter		Sami	iled: 09/0	6/09 12:00			
CB-1016		8082 STD	ND	0.0044	0.049	ug/L	lx	52716	10/12/09 15:10	10/23/09 16:17	
CB-1232		H	ND	0.0040	0.049		*	11	*		
PCB-1221		*	ND	0.0060	0.049		•			•	
CB-1242		<b>n</b> .	ND	0.0040	0.049		-	н	•	₩	
CB-1248		,	ND	0.0069	0,049		'n		* .	11	
PCB-1254		H	ND	0.0043	0.049	"	u	π	*	н	
CB-1260		*	ND	0.0038	0,049	n	W	*	*	-	
Surrogate(s):	Tetrachloro-m-xylene			67%		60 -	150 %	н		н	***

TestAmerica Spokane

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5POKANE, WA 11922 E. 1ST AVENUE \$POKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name;

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/28/09 11:16

### Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10032-16RE1	(G-RS3SW-090609)	W	ater		Sam	pled: 09/	06/09 12:00			
•	DCB Decachlorobiphenyl		61%		40	- 135 %	lx		10/23/09 16:17	
S10032-17 (	G-RS3DSW-090609)	W	ater		Sam	pled: 09/	06/09 11:40		_	
PCB-1016	RCR2 STD	ND	0.0042	0.047	ug/L	lx	50020	09/10/09 15:12	10/20/09 18:11	
CB-1232	•	, ND	0.0039	0.047	•		*	b	U	
CB-1221	•	ND	0.0058	0,047	•	•		11	ıı .	
CB-1242	•	ND	0.0039	0.047	1)	ı			u	
CB-1248	н	ND	0.0067	0,047	1)		П		U	
CB-1254	•	ND	0.0042	0.047	n	•			*	
CB-1260	•	ND	0.0037	0.047	*	•	π	*	•	
S10032-17RE1	(G-R\$3D\$W-090609)	W	ater		Samj	pled: 09/	06/ <del>09</del> 11:40			
CB-1016	8082 STD	ND	0.0043	0.04B	ug/L	1x	52716	10/12/09 15:10	10/23/09 16:32	
CB-1232	•	ND	0.0039	0.048	•	•		#	11	
CB-1221		ND	0,0059	0,048	•		-	77		
CB-1242	н	ND	0.0039	0,048	• 1	. •	•	•		
CB-1248	•	ND	0,0068	0,048	•		•	•	•	
CB-1254	•	ND	0.0042	0.048		*	•	*	ĸ	
CB-1260		ND	0.0037	0.048		*	Ħ	*	-	
Surrogate(s):	Tetrachloro-m-xylene		71%		60	- 150 %	п			
	DCB Decachlorobiphenyl		69%		40	- 135 %	н		"	
ST0032-19 (G	G-RS4SW-090609)	Wa	ıter		Samp	oled: 09/(	6/09 13:30		<u>.</u>	
ZB-1016	8082 STD	ND	0.0045	0,050	ug/L	1x	50020	09/10/09 15:12	10/20/09 18:26	
CB-1232	•	ND	0.0041	0,050	•		я	•	*	
CB-1221	•	ND	0.0061	.0.050	H	•	,	•	н	
B-1242	Ħ	ND	0.0041	0.050	<b>B</b> 1		a	•	н	
B-1248	•	ND	0,0070	0.050		•		•		
B-1254		ND	0.6044	0.050		٠,	*	٠.	, •	
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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Project Name:

Avery Landing

40 - 135 % "

18300 NE Union Hill Rd. Suite 200

Project Number.

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager: Doug Morell 10/28/09 11:16

### Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

				TestAme	MICA JAC	OHIN	<del></del>				
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
SS10032-19RE1	(G-RS4SW-090609)		W	ater		Sam	pled: 09/	06/09 13:30			
PCB-1016	8	082 STD	ND	0.0045	0.050	ug/L	1 <b>x</b>	52716	10/12/09 15:10	10/23/09 16:48	
PCB-1232		н	ND	0.0041	0.050	7	* .	*	н	и	
PCB-1221		W	ND	0.0061	0,050	H	• `	n	7	. "	
CB-1242		•	ND	0.8041	0.050	•	•	•		n	
PCB-1248		•	ND	0.0070	0,050	*	•	•	•	•	
CB-1254		•	ND	0.0044	0.050	M	*	•	•	•	
CB-1260		7	ND	0.0039	0.050			N.	u		
Surrogate(s):	Tetrachloro-m-xylene		· <del></del> -	65%		60	- 150 %	•		u ·	
	DCB Decachlorobiphenyl			61%		40	- 135 %	**		· •	
S10032-20 (C	G-RS5SW-090609)		Wa	ater		Sam	pled: 09/6	06/09 14:00		•	
CB-1016	80	082 STD	ND	0.0049	0.054	ug/L	lx	50020	09/10/09 15:12	10/20/09 18:42	-
CB-1232		п	ND	0.0044	0.054	•		*	•		
CB-122 I		7	ND	0.0067	0,054	U	•	#	•	н	
CB-1242		•	ND	0.0044	0,054		•	Ħ	•	₩ ,	
CB-1248	•	4	ND	0.0077	0,054	•	•		•	n	
CB-1254			ND	0.0048	0,054		•	×	•	<b>H</b>	
CB-1260		•	ND	0.0042	Ó,054	•			•	•	
S10032-20RE1	(G-RS5SW-090609)		Ws	iter		Sam	pled: 09/(	06/09 14:00			
CB-1016	80	182 STD	ND	0.0042	0.047	ug/L	1x	52716	10/12/09 15:10	10/23/09 17:03	
CB-1232		•	ND	0.0039	0.047	P	•		u		
CB-1221			ND	0.0058	0.047	*			н	н	
CB-1242		•	ND	0.0039	0,047	н	٠		W	•	
CB-1248	•	H	ND	0.0067	0.047	u		•	•		
CB-1254		*	ND	0.0042	0.047		*	. •	-	*	
CB-1260		H	ND	0.0037	0.047	н	*		•	•	
Surrogate(s):	Tetrachloro-m-xylene			61%		60	- 150 %	н	<del>-</del>	и.	

TestAmerica Spokane

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tardi Randee Decker, Project Manager

DCB Decachlorobiphenyl





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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

**Avery Landing** Project Name:

Project Number: Project Manager; 073-93312-03 Doug Morell

Report Created:

10/28/09 11:16

### Semivolatile Organic Compounds (GC/MS SIM)

			TOUTH	erica Tac	AMIA .	-				
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-01 (G-HC1R-090409)		Ws	iter		San	ipled: 09/0	4/09 09:00		·····	
Naphthalene	8270C STD	0.078	0.0034	0.0094	ug/L	lx	50020	09/10/09 15:12	09/15/09 14;32	ار
-Methylnaphthalene	*	0.012	0.0028	0.012	*			Ħ	*	I,
-Methylnaphthalene		0.069	0.0011	0.0094	•	*	6	* ,	*	, ,
Benzo[a]anthracene	*	ND	0.0023	0.0094	¥	H	•	41	•	•
Acenaphthylene	н	0.027	0.0010	0.0094	*	*	*	н ,	*	
Anthracene		0.036	0.00075	0,0094	•	-			•	<b>ي</b> ر
Chrysene		ND	0.0020	0.0094	•		•	•	•	
Acenaphthene		0.21	0.00094	0,0094	•	н	н	41	*	ξ,
Benzo[b]fluoranthene		ND	0.0025	0,0094	•	U		u	n	
luoranthene	ti .	0.0070	0.0015	0,0094	u·	U	n	**	•	<del>آ</del> بلد.
Benzo[k]fluoranthene	. 4	ND	0.0023	0.0094	*	и		'n	•	
Tuorene	<b>b</b>	0.12	. 0.0011	0.0094	•	н	μ	*		الب
'yrene		0.014	0.0016	0,0094		н	۳	•	8	ı,
Benzo[a] pyrene	н	ND	0.0018	0,019	*	77		π	•	
henanthreae		0.0099	0.0010	0.0094	*	**	•	*		ار
ndeno[1,2,3-cd]pyrene	•	ND	0.0019	0.0094	4	, "	*	ч		
Dibenz(a,h)anthracene	•	ND	0.0017	0.0094		Ħ		-	*	
Benzo[g,h,i]perylene	•	ND	0.0019	0.0094		•	•	•		
Surrogate(s): Nitrobenzene-d5			113%		40	) - 110%	p .		н	X, I
2-Fluorobiphenyl			55%		50	) - 110 %	'n		*	
Terphenyl-d]4			90%		50	) - 135 %			10	
SI0032-02 (G-EW3-090409)		Wa	ter		Sam	:pled: 09/0	4/09 11:20			
aphthalene	8270C STD	0.017	0.0034	0,0094	ug/L	lx	50020	09/10/09 15:12	09/15/09 15:36	1
Methylnaphthalene	•	0.0074	0.0028	0.012	tiL "	•	*	*	U	<del>ا بال</del> بع
Methylnaphthalene	н	0.045	0.0011	0.0094		•	4	•	,	EL,
enzo[a]anthracene	•	ND	0.0023	0,0094	н	=	•	4	r	
cenaphthylene	N	0.0055	0.0010	0.0094	÷	•	٠	#	•	j
nthracene		0.0096	0.00075	0.0094	•	•		11	*	B ₁
hrysene	n	0.0023	0.0020	0,0094	•	•	н			
cenaphthene	0	0,040	0.00094	0,0094		u		н	•	8 سر
enzo[b]fluoranthene	Þ	ND	0.0025	0.0094	•	-		•	*	
luoranthene	•	0.014	0.0015	0,0094		•	ĸ	P		هر
enzo[k] fluoranthene	Ħ	ND	0.0023	0,0094	•			*	н	
luorene	н	0.054	0.0011	0.0094	*		μ.	47	4	FF-C
yrene	и	0,033	0.0016	0.0094		•	*	•	•	-10
enzo[a] pyrene	N	ND	0.0018	0,019	•	•		•	•	
nenan threne	*	0.036	0.0010	0.0094				•		В
Indeno[1,2,3-cd]pyrene	•	ND	0.00/9	0.0094	*			ja r		

TestAmerica Spokane

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THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 11:16

### Semivolatile Organic Compounds (GC/MS SIM)

Analyte		Method	Result	MDL*	MRL	Vaits	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-02	(G-EW3-090409)		W	ıter		San	pied; 09/	04/09 11:20	-		
Dibenz(a,h)anthra	селе	8270C S1TD	ND	0.0017	0,0094	ug/L	lx	50020	09/10/09 15:12	09/15/09 15:36	
Benzo[g,h,i]peryle	ene	•	ND	0.0019	0,0094		п	•	•	•	4
Surrogate(s):	: Nitrobenzene-d5	<del></del>		98%		41		11			
	2-Fluorobiphenyl			72%			7 - 110 %	p		m	
•	Terphenyl-d14	,		94%		50	) - 135 <b>%</b>	11		N	
SSI0032-03	(G-EW4-090409)		Ws	iter	,	Sam	pled: 09/	04/09 13:20			
Naphthalene	<del></del>	8270C STD	0.0055	0.0034	0,0094	ug/L	1x	50020	09/10/09 15:12	09/15/09 15:56	<del>آ</del> بلد
2-Methylnaphthale	ene	•	ND	0.0028	0.012			. "	U	₹ .	
1-Methylnaphtha	llene	•	0.0026	0.0011	0.0094	, n	•		π-	*	البنس
Benzo[a]anthracer		•	ND	0.0023	0.0094	٠.	-	*	n		
Acenaphthylene			ND	0.0010	0.0094		•		Ħ	*	
Anthracene		B	_0.0018	0.00075	0,0094 &			p		•	البلد
Chrysene		Ħ	ND	0.0020	0,0094	`.	н	н	ĸ		-
Acenaphthene		в	0.0041	0.00094	0.0094 U	н			н	•	البلد
Benzo[b]fluoranth	ene	н	ND	0.0025	0.0094	- μ	-		н		•
Fluoranthene			0,0020	0,0015	0,0094				H	•	البينيد
Benzo[k] fluoranth	ene		ND	0.0023	0.0094				*		<i>.</i>
Fluorene			.0.0023	0,0011	0.0094	*	P	P	h .	•	المستد
Pyrene		•	0,0020	0.0016	0.0094		*		п		البلد
Benzo[a]pyrene		*	ND	0.0018	0.019		*				17-
Phenan threne			0.0037	0.0010	0,0094		*	*	•		الأسلام
Indeno[1,2,3-cd]ps	vrene	н	ND	0.0019	0,0094	•					
Dibenz(a,h)anthrac		u.	ND	0.0017	0.0094						
Benzo[g,k,i]peryle		я	, NTD	0.0019	0,0094				ь.	н	
Surrogate(s):	Nitrobenzene-d5		· · ·	101%		40	- 110%			н	
	2-Fluorobiphenyl			77%			- 110%	*		ir	
	Terphenyl-d14			97%			- 135 %				
SS10032-04 (	(G-EMW04-090409)		Wa	ter		Sam	pled: 09/4	04/09 15:35			
Vaphthalene		8270C STD	0.042	0.0034	0.0094	ug/L	1x	50020	09/10/09 15:12	09/15/09 16:16	ظـر.
-Methylnaphthal	lene	*	0.066	0.0028	0.012	•		π .	•	u '	,B
-Methylnaphthal	lene	н	0.034	0,0011	0.0094				*	н	,B
Senzo[s]enthracen	e	<b>n</b>	ND	0.0023	0,0094	*	*	ч	•	w	·
cenaph thylene			0.0073	0.0010	0,0094			*	•	•	J
mibracene		•	0.017	0.00075	0,0094	ņ		*	Ħ	п	هر
Chrysene		н	0.0052	0.0020	0.0094	•	•		•	•	J
Acenaphthene	<del>7</del> .	n	0.049	0.00094	0.0094		,	,,		н	B

TestAmerica Spokane

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11922 E, 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

......

18300 NE Union Hill Rd. Suite 200

Golder Associates, Inc.

Redmond, WA 98077

Project Name: Project Number: **Avery Landing** 

Project Manager:

073-93312-03 Doug Morell Report Created: 10/28/09 11:16

### Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dîl	Batch	Prepared	Analyzed	Notes
SSI0032-04 (G-EMW04-090409)		W	ater		Sam	pled: 09/	04/09 15:35			
Benzo[b]fluoranthene	8270C STD	ND	0.0025	0.0094	ug/L	lx	50020	09/10/09 15:12	09/15/09 16:16	
Fluoranthene	н	-0.0075	0.0015	0.0094 し	L "	•	4	h	*	للسد
Benzo[k]fluoranthene	•	ND	0.0023	0.0094	•	•	- 1	•	#	
Fluorene	•	0.078	0.0011	0.0094		•	•	н	*	٠
Pyrene	•	0.015	0.0016	0.0094		•	*	h		
Benzo[a]pyrene	•	ND	0.0018	0,019	*	•		*	H	
Phenanthrene		0.014	0.0010	0.0094		•		11		_
Indeno[1,2,3-cd]pyrene		ND	0.0019	0.0094		n	Ħ		n .	
Dibenz(a,h)anthracene	•	ND	0.0017	0.0094	u	7	, п	н	ıı .	
Benzo[g,h,i]perylene	•	ND	0.0019	0.0094	H	*	•		ĸ	
Surrogate(s): Nitrobenzene-d5		· · · · · ·	131%		40	) - 110 %	n n		, ,	X. I
2-Fluorobiphenyl			59%		50	- 110 %	n	•	.,	7 LL 2
Terphenyl-d14			103%			- 135 %	ď		n	
SSF0032-06 (G-GA1-090509)		Wa	iter		Sam	pled: 09/6	05/09 09:40			
Vaphthalene	8270C STD	0.039	0.0034	0.0094	ug/L	1x	50020	09/10/09 15:12	09/15/09 16:36	
-Methylnaphthalene	•	Д.9877	0.0028	0.012		*		•		,I.
-Methylnaphthalene	•	0.077	0.0011	0,0094	•	*		•		
Benzoja)anthracene		0.0024	0.0023	0,0094	-	•	•	•		
Acenaphthylene		0.042	0.0010	0.0094	•	•	*	•	•	•
Anthracene	,	0.033	0.00075	0.0094	•		₩	n		
Chrysene	•	0.0065	0.0020	0.0094	* •	•	*		*	
Acenaphthene		0,20	0.00094	0.0094	•	-		· •		_
Benzo[b]fluoranthene	в	ND	0.0025	0,0094	•	•	*	•	•	
Auoranthene		0.018	0.0015	0,0094	н	•	*		¥	_
Benzo[k]fluoranthene		ND	0.0023	0,0094	•		H	*	•	
Tuorene	•	0,47	0.0011	0,0094	b		11	•	•	
'yrene	4	0.019	0.0016	0.0094	*			•	đ	
Венхо[а]ругене		ND	0.0018	0.019		н	p	n ·	n	
Phenanthrene	•	0.040	0.0010	0.0094	•	•	н	•	ŧ	_
ndeno[1,2,3-cd]pyrene	n ·	ND	0.0019	0,0094	•	•	'n	٠	•	
Dibenz(a,h)anthracene	•	ND	0.0017	0,0094	•	н	*	•	. 🔻	
Benzo[g,h,i]perylene	H	ND	0.0019	0,0094			π .	,.	"	•
Surrogate(s): Nitrobenzene-d5			115%		40	- 110%	<b>#</b> ,		н	X, I
2-Fluorobiphenyl			77%		50	- 110 %				
Terphenyl-d14			100%			- 135 %	H			

Fest America	Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Report Created:

Project Manager: Doug Morell 10/28/09 11:16

### Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-07 (G-EMW05-090509)		W	ater		Sam	pled: 09/0	5/09 11:25			
Naphthalene	8270C STD	2.4	0.0035	0.0096	ug/L	1 <b>x</b>	50020	09/10/09 15:12	09/15/09 16:56	ظب
2-Methylnaphthalene	ĸ	1.6	0.0029	0.012	и	u	•	7	×	<b></b>
1-Methyluaphthalene	11	9.7	0.012	0,096	Ħ	IOx		**	09/17/09 19:12	
Benzo[a]anthracene	4	ND	0.0023	0.0096	•	1x	•	u	09/15/09 16:56	
Acenaphthylene	•	0.13	0.0011	0,0096			•	*	. •	
Anthracene	•	0.19	0.00077	0.0096	*	•	*	II .	•	ظر
Chrysene		0.0024	0.0020	0,0096	٠.	•		u	Ħ	J
Acenaphthene		1.0	0.00096	0,0096	n	•	н	"	'n	_B-
Benzo[b]fluoranthene	•	ND	0.0025	0,0096	•	•	11	*	h	
Fluoranthene	*	0.048	0.0015	0.0096	¥	*	u	#	В	مظلب
Benzo[k]fluoranthene	•	ND	0.0023	0,0096	,			•		`
Fluorene		1.3	0.0012	0.0096	•	•	21	•	*	#b
Pyrene		0.055	0.0016	0.0096	n			•	•	Æ
Benzolalpyrene		ND ND	0.0018	0.019	4		**	n	•*	
Phenanthrene	•	1.3	0,0011	0.0096	<b>M</b>		•	•	a	هر.
Indeno[1,2,3-cd]pyrene		ND	0.0019	0.0096	þ	ĸ		. •	ŋ	•
Dibenz(a,h)anthracene	u	ND	0.0017	0.0096				*		
Benzo[g,h,i]perylene	в	ND	0.0019	0.0096				•	•	
Surrogate(s): Nitrobenzene-d5			91%		40	- 110 %	#		н	
2-Fluorobiphenyl			34%			- 110 %	ar .		" x	. <i>I</i>
Terphenyl-d]4			94%		50	- 135 %	ts.		"	
SSI0032-08 (G-EMW06-090509)		W	iter		Sam	pled: 09/0	5/09 13:25			
Naphthalene	8270C STD	5,8	0.034	0,094	ug/L	10x	50020	09/10/09 15:12	09/17/09 19:32	<del></del> -
2-Methylnaph thalene	•	6.7	0.0028	0.012		1x	н	•	09/15/09 17:17	-#-
1-Methylnaphthalene		14	0.017	0.094		10x	,	• '	09/17/09 19:32	•
Benzo[a] authracent	•	0.0040	0.0023	0.0094		1x	*	•	09/15/09 17:17	J
Acenaphthylene	π	0,25	0.0010	0.0094			*		,	
Anthracene	• "	0.26	0.00075	0.0094		h	н	*	*	<b>ط</b> ر
Chrysene		0.0068	0.0020	0,0094		Ħ				J
Acenaph these		1.6	0.00094	0,0094	**	*1	•		M,	سطر. سطر
Benzo[b]fluoranthene	*	ND	0.0025	0.0094						-
Ruoranthene		0.060	0.0015	0.0094				ŧ		.18-
Benzo[k]fluoranthene		ND	0.0023	0.0094			11		Ð	
Fluorene	•	2.3	0.0011	0.0094		н			•	-B-
	*	0.074	0.0016	0.0094				•	•	 
Purene		V:U:T								_
	•	מא	0.0018	0.019	н	. •		W		
Pyrene Benzo[s]pyrene Phenanthrene		ND 2,0	0.0018	0.019 0.0094	H	. "		нн	M	n.

TestAmerica Spokane

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Randee Decker, Project Manager

(abrai)









POKANE, WA 11922 E. 1ST AVENUE

SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number.

073-93312-03

Project Manager: Doug Morell

Report Created:

10/28/09 11:16

### Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

			TODE MILE	Dpo						
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Anelyzed	Notes
SSI0032-01 (G-HC1R-090409)		Wa	ter		Sam	pled: 09/	/04/09 09:00			
Diesel Range Hydrocarbons	NWTPH-Dx	0.992		0,240	mg/l	lx	9090104	09/16/09 08:06	09/17/09 01:42	
Heavy Oil Range Hydrocarbons		0,637		0,481			*	h	•	
Surrogate(s): 2-FBP			80.0%		50	- 150 %	н		n	
p-Terphenyl-d14			105%		50	- 150 %	н		и	
SSI0032-02 (G-EW3-090409)		Wa	ter		Sam	pled: 09/	/04/09 11:20			
Diesel Range Hydrocarbons	NWTPH-Dx	1.85		0,236	mg/l	iĸ '	9090104	09/16/09 08:06	09/17/09 02:05	
Heavy Oil Range Hydrocarbons	•	1.60		0.472	•	•	•	н	и	
Surrogate(s): 2-FBP			73.1%		50	- 150 %	н		14	
p-Terphenyl-d14			92.2%		50	- 150 %	N		11	
SSI0032-03RE1 (G-EW4-090409)		Wa	ter		Sam	pled: 09/	04/09 13:20			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0.236	mg/l	1×	9090121	09/18/09 14:11	09/18/09 23:24	-
Heavy Oil Range Hydrocarbons	•	ND	_	0,472	*	<b>8</b> 1	Ħ		•	
Surrogate(s): 2-FBP			9.7.9%		50	- 150 %	v		tt	
p-Terphenyl-d14			118%		50	- 150 %	v		n	
SSI0032-04 (G-EMW04-090409)		Wa	ter		Sam	pled: 09/	04/09 15:35			
Diesel Range Hydrocarbons	NWTPH-Dx	ND	_	0,236	mg/l	lχ	9090104	09/16/09 08:06	09/17/09 02;52	
Heavy Oil Range Hydrocarbons	•	ND	_	0.472	•	*	•		*	
Surrogate(s): 2-FBP	· <del></del> ·		73.7%		50	- 150 % ·	н		и .	
p-Terphenyl-d14	•		104%		50	- 150 %	n		п	
SSI0032-05 (G-P101OFP-090409)		Oth	er (L)		Samj	pled: 09/	04/09 17:30			
Diesel Range Hydrocarbons	NWTPH-Dx	201000	4444	5660	mg/kg	5x	9090118	09/18/09 06:13	09/18/09 11:42	
Heavy Oil Range Hydrocarbons	er .	120000		14200	•		н	A	н	
Surrogate(s): 2-FBP			158%	-		- 150 %	"		" 2	Z3
p-Terphenyl-d14			106%		50	- 150 %	,,		n	
SSI0032-06 (G-GA1-090509)		Wat	ier		Sam	pled: 09/	05/09 09:40		-	
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0.236	mg/l	1x	9090104	09/16/09 08:06	09/17/09 03:16	
Heavy Oil Range Hydrocarbons	*	ND		0,472		•	•		•	
Surrogate(s): 2-FBP			59.9%		50	- 150 %	n	-	Ħ	
p-Terphenyi-d14	•	. !	77.7%		50	- 150 %	"		n	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

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18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/28/09 11:16

### Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

<u> </u>		163	tAmerica Spo	Addic					<del></del>
Analyte	Method	Result G M	DL* MRL	Units	Dil	Batch	Prepared	Analyzed	Note
SI0032-06RE1 (G-GA1-090509)		Water		Sam	oled: 09/	05/09 09:40			
iesel Range Hydrocarbons	NWTPH-Dx	0,352 丁	0.236	mg/l	1x	91 00094	10/15/09 12:59	10/15/09 17:01	•
leavy Oil Range Hydrocarbons	•	ND UT	<u> </u>	н		Ħ	•	*	
Surrogate(s): 2-FBP		76.4%	;	50	- 150 %	ų		tr	
p-Terphenyl-d14		78.1%		50	- 150 %	R.			
SI0032-07 (G-EMW05-090509)		Water		Samp	led: 09/	05/09 11:25			
iesel Range Hydrocarbons	NWTPH-Dx	0.611	0.236	mg/l	ix	9090104	09/16/09 08:06	09/17/09 03:39	
eavy Oil Range Hydrocarbons	•	ND -	0.472		H	•	•		
Surrogate(s): 2-FBP		75.8%	i	50	- 150 %	H		n	
p-Terphenyl-d14		102%	;	50	- <i>150 %</i> i	H			
SI0032-08 (G-EMW06-090509)		Water	Sampled: 09/05/09 13:25				•		
iesel Range Hydrocarbons	NWTPH-Dx	0.546 -	0.240	mg/l	lx	9090104	09/16/09 08:06	09/17/09 04:03	
eavy Oil Range Hydrocarbons	n	ND -	0.481	•	0	. 11	•	π	
Surrogale(s): 2-FBP		71.5%		50 -	150 %	*		n	
p-Terphenyl-d14		98.1%		50 -	· 150 %	•		Ħ	
SI0032-09 (G-EB-090509)		Water	. •	Samp	led: 09/	05/09 14:00			
iesel Range Hydrocarbons	NWTPH-Dx	ND -	0,240	mg/l	1x	9090104	09/16/09 08:06	09/17/09 05:13	
eavy Oil Range Hydrocarbons		NID -		•	•		•	•	
Surrogate(s): 2-FBP		87.6%		50 -	150 %	*		"	
p-Terphenyl-d14		110%		50 -	150 %	#		n	
610032-10 (G-RS5FP-090509)		Other (L	)	Samp	led: 09/	05/09 15:00			
esel Range Hydrocarbons	NWTPH-Dx	233000 -	12000	mg/kg	10x	9090118	09/18/09 06:13	09/18/09 12:06	
eavy Oil Range Hydrocarbons		265000 -		•	•	. •	*	*	
Surrogate(s): 2-FBP		73.7%			150 %	n	· · · · · ·	p	•
p-Terphenyl-d14	•	89.1%		50 -	150 %			, ii	
G-RS4FP-090509)		Other (L	)	Samp	led: 09/	05/09 16:08			
esel Range Hydrocarbons	NWTPH-Dx	386000 -		mg/kg	5x	9090118	09/18/09 06;13	09/18/09 12:06	-
cavy Oil Range Hydrocarbons	<u></u>	306000 -	14700	*		#		M	
Surrogate(s): 2-FBP		161%			150 %	<b>8</b> 1			Z3
p-Terphenyl-d14		95.0%			150 %	<b>3</b> 1			

TestAmerica	Spokano
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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

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Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 11:16

### Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-12 (G-RS3FP-090509)		Off	ier (L)		Samp	oled: 09/	05/09 16:35			
Diesel Range Hydrocarbons	NWTPH-D _K	154000		11300	mg/kg	10x	9090118	09/18/09 06:13	09/18/09 12:32	
Heavy Oil Range Hydrocarbons	н	149000		28300	*		4		π 	•
Surrogate(s): 2-FBP			132%		50	- 150 %	'n		н	
p-Terphenyl-d14			98.6%		50	- 150 %	n		, <b>#</b>	
SSI0032-13 (G-RS3aFP-090509)	•	Oth	ier (L)		Samp	oled: 09/	05/09 17:00			
Diesel Range Hydrocarbons	NWTPH-Dx	80700		2400	mg/kg	1x	9090118	09/18/09 06:13	09/18/09 12:32	
Heavy Oil Range Hydrocarbons	н	67500	_	6000	-	٠		ji		
Surrogate(s): 2-FBP			103%			- 150 %	"		"	
p-Terphenyl-d14			107%		50	- 150 %	и		"	
SSI0032-14 (G-RS1SW-090609)		Wa	ter		Samp	oled: 09/	06/09 09:45			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0.250	mg/l	lx	9090104	09/16/09 08:06	09/17/09 05:37	
Heavy Oil Range Hydrocarbons		ND		0.500	* .	•		ĸ		
Surrogate(s): 2-FBP			72.1%		50 -	- 150 %	н		н	
p-Terphenyl-d14		:	92.6%		50 -	- 150 %	п		n	
SSI0032-15 (G-RS2SW-090609)		Wa	ter		Samp	led: 09/	06/09 10:45			
Diesel Range Hydrocarbons	NWTPH-Dx	ND	-	0,260	mg/l	1x	9090104	09/16/09 08:06	09/17/09 06:00	
Heavy Oil Range Hydrocarbons	*	ND		0,521	•	1			#	
Surrogate(s): 2-FBP		-	80.8%			- 150 %	н		π	
p-Terphenyl-d14			103%		50 -	- 150 %	н		a	
SSI0032-16 (G-RS3SW-090609)		Wat	ter		Samp	led: 09/	06/09 12:00			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0,266	mg/l	lж .	9090104	09/16/09 08:06	09/17/09 06:24	
Heavy Oil Range Hydrocarbons	R	ND		0,532		•		1	•	
Surrogate(s): 2-FBP			76.9%			150 %	"		**	
p-Terphenyl-d14		ļ	99.6%		50 -	150 %	"		,	
SSI0032-17 (G-RS3DSW-090609)	<u> </u>	Wat	ter		Samp	led: 09/	06/09 11:40			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0,236	mg/l	- ix	9090104	09/16/09 08:06	09/17/09 06:47	
Heavy Oil Range Hydrocarbons		ND′		0,472	п	*			*	
Surrogate(s): 2-FBP			32.2%		50 -	150 %	"		fr .	
p-Terphenyl-d14		-	103%		50 -	150 %			"	

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number:

073-93312-03

Report Created:

Project Manager:

Doug Morell

10/28/09 11:16

### Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0032-19 (G-RS4SW-090609)	· ·	W	iter		Sam	pled: 09/	06/09 13:30			
Diesel Range Hydrocarbons	<b>№ТРН-</b> Фх	ND		0.248	mg/l	1x	9090104	09/16/09 08:06	09/17/09 07:11	<u>_</u>
Heavy Oil Range Hydrocarbons	• ,	ND		0,495	#		μ	F	•	
Surrogate(s): 2-FBP			73.4%		50	- 150 %	p		и	,
p-Terphenyl-d14			96.4%		50	<i>- 150 %</i>	а		n	
SSI0032-20 (G-RS5SW-090609)		W	iter		Samj	pled: 09/	06/09 14 <b>:0</b> 0	•		
Diesel Range Hydrocarbons	NWTPH-D _K	ND	_	0.240	mg/l	1x	9090104	09/16/09 08:06	09/17/09 07:34	
Heavy Oil Range Hydrocarbons	•	ND		0,481	•	•			•	
Surrogate(s): 2-FBP			78.4%		50	- 150 %	#		**	
p-Terphenyl-d14			103%		50	- 150 %	u		H	
SSI0032-21 (G-RS6SW-090609)		Wa	Water Sampled: 09/06/09 14				06/09 14:50			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0.278	mg/i	lχ	9090104	09/16/09 08:06	09/17/09 07:58	
Heavy Oil Range Hydrocarbons	•	ND		0.556	,	•	*	•	ч	
Surrogate(s): 2-FBP			83.9%		50	- 150 %	tt.		.,	
p-Terphenyl-d14			106%		50	- 150 %	W		n	
S10032-22 (G-RS7SW-090609)		Wa	ter		Sam	oled: 09/	06/09 15:20			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0,245	mg/l	1x	9090104	09/16/09 08:06	09/17/09 08:21	
leavy Oil Range Hydrocarbons		ND	-	0,490		•	*		•	
Surrogate(s); 2-FBP			79.2%		50	- 150 %	#		"	
p-Terphenyl-d14		•	100%		50	- 150 %	<b>.</b>		п	
SI0032-23 (G-RS8SW-090609)		Wa	ter		Samp	oled: 09/	06/09 16:25			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		0.240	mg/l	1x	9090104	09/16/09 08:06	09/17/09 09:32	
Heavy Oil Range Hydrocarbons	Ħ	ND		0,481	н	#		*	11	•
Surrogate(s): 2-FBP			77.7%		50	- 150 %	<i>u</i> .		n	
p-Terphenyl-d14			101%		50	- 150 %	n		n	

TostA	merica	s	poka	nc
T ODD !	*****	•	P-DI-LOX	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





### ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 12, 2010

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of 5 samples collected from the Avery Landing site in Avery, Idaho, was performed by Golder Associates, Inc., Redmond, Washington. The validation was performed in accordance with the Tier III and IV Data Validation Summary Checklist (attached). Volatile Organic Compound (VOC; EPA Method 8260), polychlorinated biphenyl (PCB; EPA Method 8082), diesel-range total petroleum hydrocarbons (Method NWTPH-Dx), and semivolatile organic compounds (SVOCs; EPA Method 8270-SIM) analyses were performed by Test America, Spokane Valley, Washington.

The samples were numbered:

G-GA1-21-082609

G-GA3-20-082609

GA-D2-20-082609

G-GA-D-082609

Trip Blank

See the attached Checklist and associated data results pages provided by Golder Associates for qualified sample results.

	GOLDER PROJECT #: 073-93	312.05		SITE: A	very Landin	g/ POTLA	TCH / Id	aho
	LABORATORY: Test Americ			SDG: #		- <u> </u>	<u></u>	
	SAMPLES		Collect	<del></del> _		MATR	IX	· · · · · · · · · · · · · · · · · · ·
01	G-GA1-21	8-	26-09			501	L BORI	NGS
	G-GA3-20		1			<u> </u>		
04	DA-DZ							
85	G-GA-D		¥			4		
	TRIP Blank	9-0	8-09		•	WA	TER	
Į				<u> </u>	. <u>.                                   </u>		· · · · · · · · · · · · · · · · · · ·	
	DA	ATA ASS	ESSMEN'	Γ SUMMA	RY			
	REVIEW ITEM	VOA	BNA	Pest / PCB	TPH-Dx	PAH - SIM	OTHER	OTHER
f	1. Data Completeness				0/			_
ţ	2. Preservation, Holding Times (1)	X			XV	X		
Ī	3.GC/MS Tune, Inst. Performance	Ó						
Ţ	4. Calibrations	0		0			<del></del>	
ľ	5. Surrogates	0	i	0		0		
ľ	6. Internal Standards	_						
	7. Lab Blanks, Field Blanks	0			6	0		
	8. Lab Duplicates, Field Duplicates	0			0			
	9. LCS, Blank Spike, MS/MSD					0		•
	10.Compound Identification, TICs	0						
	11. Result Verification, D.Limits				0	$Q_{-}$		
L	12. Overall Summary				$\bigcirc$			
	O = Data had no problems  X = Data qualified due to minor prob  M = Data qualified due to major prob  Z = Data unacceptable [typically data  Comments/Qualified Results:  To all Saundles:  Are fust one de  Chapter 4 Sect	olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems [typic olems	cally estima cally more to the cally more to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call	nan 50% qua es ou- ualific mmend on Upda	rUJ)]. dified (J/UJ).  If for Vo  Id (3/1)  Led hold	time /	All do	Hes
	Validated by:	Z.	<u>an</u> _			Date:	Nov. 10	2009
	Reviewed by:		<u> </u>			Date:		<b>\</b>

Acceptable:

•		YES	NO
1. Date Package Completeness (Check if pre	esent)	D	
Case narrative Chain of Custody Sample Results Detection Limits GC/MS Tuning Unitial Calibration Continuing Calib.	Blank Results Surrogate Results Internal Standards MS/MSD, LCS Results Preparation Logs Analysis Run Logs Raw Data Other	/ Acceptable X Absent Not required for data package requested.	
Comments/Qualified Results:			
	<u> </u>		_
1			_
		<del> </del>	
	<del></del>		——
	<u>.                                    </u>		
2. Holding Times (Check all that apply)		(	X
BNA extracts analyzed within 40 days of collection Pest/PCBs samples extracted within 7 days (14 day soil) of co Pest/PCBs extracts analyzed within 40 days of collection Qualify as estimated (J/UJ) all results analyzed past hold time lindetects as (J) and non-detects as (UR). Comments/Qualified Results:  TPH-Dx - 15 Days assoc.  PCB - No Qual. Z  PAH: 15 Days assoc.	results Ju	Outside the 2X limit, qu	alify
		·	
· · · · · · · · · · · · · · · · · · ·			
3. GC Instrument Tune, Performance Check		<b>I</b>	
GC/MS Tuning within control limits PEN GC/MS Tuning out of control limits, (qualify R/UR)	s Chk Mix, MidPoint AB <60%, M resolution <90% adj pks, (J for I, Endrin breakdown >20%, (J Aldehyde, Endrin Ketone, or N s from ICAL AB mixture (Fix or	or detects, UR other) for DDD,DDT, Endrin, U/R)	er)
VM 96. V DDE # 02 V NOM	11 /		
ORD 91 POEC+02/ OR	n/		
Will the KKT alc v	0001/02/		
FAHS Y/13, 1 LIME, KRF &	SKSD- K		
TPH-UX 1/1 KRFV			

•	Acceptable.	165	NO
4. Initial & Continuing Calibration (Check all that apply)	**************		
GC/MS Data:ICal RRFs>0.05 all cmpnds (If no,J/UR), [>0.01 for Poor PerformICal RSD of RRF <30% all cmpnds (If no,J detects) [<50% for Pical RSD of RRF<20.5% all cmpnds (If no,J detects) [<50% or Pical RSD of RRF<20.5% all cmpnds (If no,J detects) [<50% or Pical RSD of RRF <20.5% all cmpnds (If no,J/UJ) [+/-50% Diff, Poical RSD <10% for performance checks (If no,J/UJ), VOA, SVOA Pesticide/PCB:RSD<10% for performance checks (If no J detects)Stnds analyzed prior to analysis, & at proper frequencyContinuing Cal. % Diff. <15% for quant. (<20% for confirm columns of the confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirm columns of the confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirm columns of the confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirm columns of the confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirm columns of the confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detects)Continuing Cal. % Diff. <15% for quant. (<20% for confirmance checks (If no J detec	oor Performers] VO 30% for Poor Perfo or Performers] VOA	mers] SVOA	
See section (3). ICAL &	CCAL		
<del></del>			
		<del> </del>	
5. Surrogates (Check all that apply)		<b>1</b>	
Surrogates analyzed			
	ablished, PEST: 30	-150%)	
Recoveries below Method Control limits but>20% (J/UJ) Recoveries below 20%, 10% for PEST (J/UR for VOA, J/ UJ or UR for SVOA, J	# ID & DECT\		
recoveries below 20%, 10% for PES1 (3/0R for VOA, 3/ 03 or 0R for SVOA, 3 Comments/Qualified Results	OK IOFPEST)		
TPU-Day			
DOD /			
PCIS		<del></del>	
VAHE V			
VOA - Trip Blank W			
6. Internal Standards Performance			
_Internal standards added to all QC and samples _internal standards areas within Control Limits* [+/-40% VOA, +/-50% SVOA]* 'Associated with 12 Hour CCV Stnd.	•		
_Internal standards out of Control limits but >10% (J/UJ) _Internal standards zero or <10% of Control limits (J/UR) _Internal standards RTs within +/-20 sec window (If no, J/UJ)			
Comments/Qualified Results:			
		<del></del>	<del></del>
		·	
· · · · · · · · · · · · · · · · · · ·	<del></del>		——
	·	···········	

ORGANIC ANALYTE - Tier III & IV Da	ıta Valida	tion Sum	ımarv	Checklist		
		Accep	_	Yes	NO	
7. Laboratory Blanks, Field Blanks (Check all	that app	*				
Method Blnk Common Lab Contaminants, list: MeCi2, Cyclohes Other Contaminants: Qualify results (< 5X RL) according to Ch Instrument blanks after all high level samples, All cmpnds must	k (<10X RLs) art below.	r Acetone, 2	?-butanor	e (<2X RLs);	Chart	
Examples:		BLANK	T ====================================	SAMPLE	0	
NOA on (No Blank =		··· P** p	<del></del>		***************************************	
77.110	1 1 streets Tangestel	*****		qqrlaramreret-Hisparyanda asptititi Pyaya		
MIS50920 1 AII ND.	0.3	1.5	1.0	1.8	1.8 J	
· ,	0.3	0	1.0	0.85	0.85 J	
	0.3	0	1.0	1.8	1.8	
THE MB-0160						
			<del></del>			
PAR MRALLO						
			<del></del>			
<u></u>						
TOULD MAR 2070						
154-DX 100-10					<del></del>	
O Deservice to Field Deservice to a Colorado all that a				/	_	
8. Duplicate, Field Duplicates (Check all that a	рріу)	• • • • • • • • • • • • • • • • • • • •		LE"		
Method Blanks, Prep Blanks analyzed after Cal Stnds and every 12 hours  Method Blank Common Lab Contaminants, list MeCiz, Cyclohex (~10x RLs); Acatone, 2-butanone (<2x RLs); Charl  Other Contaminants: qualify results (=5x RL) according to Charl below.  Instrument blanks after all high level samples, All cropnds must be ~RL.  Examples:    Examples:   MDL   Result   PQL   Result   Applied						
Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X	CRDL					
Duplicate range is within ±CRDL (± 2X CRDL for soils) for result	s <5X CRDL	•				
Comments/Qualified Results						
•						
PAHs#0060 on WS/WDD N	en-as	\$\$&₫ <u>'</u>	/			
Date - MAC - MAC			٠			
LOS - 108/ MAID KAD-						
TPU-D	1				<del></del>	
TO PE WOW- AUSOC. SI	mpi.			<del></del>		
	•					
9 MS/MSD Lah Control Samples Blank Snik	es (Char	y all that	annly	\ d <b>\</b>	m	
o: monitop, cap control camples, blank opin	ica (Onice	ok till tiltat	appiy	/ a a > + L <b>j</b> y	IJ	
/ LCS 8/D 80 1208/						
		•	:			•
LCS %R <50% and all results rejected (R/UR)						
				- ^	<b>A</b>	
Comments/Qualified Results: VOA LCS	reamu	2/NV - 1	1,20	C Prove	0.580 کی	3¢.
1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	<u> </u>	-/-	. 7			
affect yours. 17 NO Social	<u> </u>	exerce?	1=1		<del></del> _	
DAYLO = MAD BSI V IMP AME	۳۸ ۸۰	1-ACC	<u>م</u> ــــ	JEAN OF L		
Times massines	SHE KACI	V	<u> </u>	~~~~	<del></del>	
DAR- TAUL INCH MADING	,	10.	~~	/sC A	1011	).m
TOPS UITE NOS , NA MOI	7 QV 9	mp.	UD '	<u>Joč</u> H	- 1016, (2	EU.
5100 C 4500 74 1 ( A . / ) ) ) ( )	_ /	-				

Acceptable	e: Yes	NO
10.Compound Identification, TICs		
Comments/Qualified Results:	· · · · · · · · · · · · · · · · · · ·	<u> </u>
	<del></del>	<del></del>
·		
		<u></u>
11. Result Verification, Detection Limits	🗸	
All results supported in raw data Detection Limits appropriate to meet project needs (Review Work Plan, QAPP)		
Comments/Qualified Results:		<del></del>
	<del></del>	<del></del>
		<del></del>
12. Overall Assessment	ď	
Comments/Qualified Results:		
· · · · · · · · · · · · · · · · · · ·		<u> </u>



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

p-Terphenyl-d14

Redmond, WA 98077

Project Name:

Avery Landing

50 - 150 %

Project Number.

073-93312-03

Project Manager: Dou

Doug Morell

Report Created: 10/28/09 13:08

#### Semivolatile Petroleum Products by NWTPH-Dx TestAmerica Spokane Result & MRL Linits MDL* Batch Prepared Analyzed Analyte Method Dif Notes Sampled: 08/26/09 15:15 SSI0046-01 (G-GA1-21-082609) Şoil HB J 09/10/09 14:30 09/13/09 18:59 NWTPH-Dx 11.2 9090070 Diesel Range Hydrocarbons 37.1 mg/kg dry 1x 28,1 Heavy Oil Range Hydrocarbons 73.0 Surrogate(s): 96.9% 50 - 150 % p-Terphenyl-d1 ( 119% 50 - 150 % (G-GA3-20-082608) Soil Sampled: 08/26/09 10:00 SS10046-03 H8 NWTPH-Dx 22.9 J 114 9090070 09/10/09 14:30 09/16/09 20:59 mg/kg dry Diesel Range Hydrocarbons 70.7 28.5 Heavy Oil Range Hydrocarbons Surrogate(s): 2-FBP 93.0% 50 - 150 % p-Terphenyl-d14 125% 50 - 150 % Sampled: 08/26/09 10:00 SS10046-04 (GA-D2-082609) Soil 118 09/10/09 14:30 9090070 NWTPH-Dx 11.3 mg/kg dry 09/16/09 21:23 39.4 J Diesel Range Hydrocarbons 28.2 Heavy Oil Range Hydrocarbons 119 3 Surrogate(s): 2-FBP 50 - 150 % 95.2% p-Terphenyl-d14 123% 50 - 150 % Sofi Sampled: 08/26/09 15:15 HS SSI0046-05 (G-GA-D-082609) 50.1 J 09/10/09 14:30 NWTPH-Dx 11.2 mg/kg dry 9090070 09/16/09 21:46 Diesel Range Hydrocarbons 88.1 J Heavy Oil Range Hydrocarbons 28.1 Surrogate(s): 2-FBP 87.1% 50 - I50 %

TestAmerica Spokane

tand

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety

Randee Decker, Project Manager



111%



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200 Redmond, WA 98077 Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/28/09 13:08

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

		<del> </del>		TESTATILE	rica ope	Mano					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SST0046-01	(G-GA1-21-082609)		Soi	1		Samp	led: 08/2	26/09 15:15			
PCB-1016		EPA 8082	ND		9.89	ug/kg dry	lx	9090142	09/21/09 14:51	09/24/09 09:18	
PCB-1221		u	ND		9.89			, ,	•	•	
PCB-1232	•		ND		9.89	*	n	•	-	•	
PCB-1242		*	ND	_	9.89	*			•	•	
PCB-1248		*	ND		9.89	•	•	•		Ħ	
PCB-1254			ND		9,89	•			7	•	
PCB-1260		•	ND		9.89	b	*		ĸ	*	
Surrogate(s):	TCX			89.0%		27.9 -	- 154 %	*		**	
	Decachlorobiphenyl			71.7%		<i>35</i> -	157%	н		••	
SS10046-03	(G-GA3-20-082608)		Sei	l		Samp	led: 08/2	26/09 10:00			
CB-1016	<u> </u>	EPA 8082	ND		9,59	ug/kg dry	lx	9090142	09/21/09 14:51	09/24/09 09:41	
CB-1221		* * *	ND		9.59		n	ĸ	•	•	
CB-1232			ND	_	9.59	•			•	*	
CB-1242		•	ND		9.59	*		P	*	<b>a</b> .	
CB-1248		•	ND		, 9,59			*	e		
CB-1254			ND		9.59		•	•	п	4	
CB-1260		H	ND		9.59	*	٠			•	
Surrogate(s):	TCX	•		95.7%		27.9 -	154 %	"		e	
	Decachlorobiphenyl			73.0%		35 -	157 %	н .		"	
S10046-04	(GA-D2-882609)		Soil			Samp	led: 08/2	6/09 10:00			
CB-1016		EPA 8082	ND		9.93	ug/kg dry	lx	9090142	09/21/09 14:51	09/24/09 10:03	
CB-1221		н	ND		9.93	#	•	H	•	•	
CB-1232		•	ND		9,93	*	•	•	•		
CB-1242		4	ND		9.93	•		•	•	•	
CB-1248	·		ND	_	9.93		п	•	•	*	
CB-1254		n	ND	_	9.93	• .			4	•	
CB-1260			ND	.—	9,93	•	•	•	æ	• .	
Surrogate(s):	TCX			38.4%		27.9 -	154%	n	····	"	
	Decachlorobiphenyl		:	71.1%	-	35 -	157%	μ		"	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200 Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created:

10/28/09 13:08

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

### <u>-</u>	· · · · · ·										
Analyte	_	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10046-05 (	G-GA-D-082609)		Soi	Į .		Samp	oled: 08/	26/09 15:15			
PCB-1016	•	EPA 8082	ND		9.89	ug/kg dry	lx	9090142	09/21/09 14:5]	09/24/09 10:26	
PCB-1221		*	ND		9.89	Ħ	**	*	4	•	
PCB-1232			ND		9,89	*	4	•	**		
PCB-1242		н	ND	-	9.89		#	•	v	•	
PCB-1248			ND		9.89	n	•		₩	N	
PCB-1254		. *	ND	_	9,89	7				н	
PCB-1260		•	ND		9,89	*	n	W	•	*	
Surrogate(s):	TCX			68.0%	•	27.9 -	- 154%	n -		n	
	Decachlorobiphenyl			60.5%		35 -	- 157%			n	

TestAmerica Spokane

Cana.

The results in this report apply to the samples analyzed in accordance with the chain of custody document, This analytical report must be reproduced in its entirety.





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/28/09 13:08

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

			TestAme	erica Spo	okane			<del></del>		
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0046-01 (G-GA1-21-082609)		Soi	162		Samj	pled: 08/2	26/09 15:15			· H
I-Methylnapthalene	EPA 8270 mod	ND L	<u>u</u> –	0,00449	mg/kg dry	lx	9090060	09/10/09 09:59	09/13/09 20:34	
2-Methylnaphthalene		ND	\ —	0.00449		*	ıı	п	•	
Acenzphthene	•	ND	<b>{</b>	0.00449	•		97	н	ч	*
Acensphthylene	•	ND '	¥	0.00449	*		. "		7	
Anthracene		0.00499	<b>5</b> —	0.00449					R	
Benzo (a) anthracene	*	. ND (	J	0,00449	•		H	₩.		
Велго (а) рутела		ND	<del>-</del>	0.00449	•		n	•	*	
Benzo (b) fluoranthene		ND	<i>-</i>	0,00449	*	-	*	н		
Benzo (ghi) perylene	*	ND )	-	0.00449		•	*	ŧ	4	
Benzo (k) fluoranthene		ND (		0.00449	•		ч	•	. ,	
Chrysene		ND		0.00449	H		и		ir .	
Dibenzo (a,h) anthracene		ND	_	0.00449	•	7	μ	*	•	
Fluoranthene	•	ND 🛡		0.00449	•	•	11	w	•	
Fluorene	<b>*</b> .	0. <b>00499</b> J	<b>-</b>	0.00449	•	•	*	n	•	
Indeno (1,2,3-cd) pyrene		ND N	<b>ゴー</b>	0.00449	•		•	N		
Naphthalene	П	ND		0.00449			*	n	u	
Phenanthrene	ŧı	ND	_	0,00449		•		Ø	. н	
Pyrene		ND Y	<i>-</i>	0.00449	•	•	•		•	·
Surrogate(s): Nitrobenzene-d5			76.0%		38.8	139 %	न		n	
2-FBP	•	i	84,2%		40 -	132 %	п		n	
p-Terphenyl-d14			98.6%		31.7-	179 %	н		n	
SS10046-03 (G-GA3-20-082608)	1	Soil	0		Samp	led: 08/2	6/09 10:00			Н8
1-Methylnapthalene	EPA 8270 mod	ND U	<b>ゴ</b> ー	0,00457	mg/kg dry	lx	9090060	09/10/09 09:59	09/13/09 20:12	
2-Methylnaphthalene	'n	ND		0.00457		•	•		*	
Acenaphthene	•	ND	l —	0.00457	<b>b</b>	•	•	*	R	
Acenaphthylene	•	ND		0,00457	×	•	•	• .	N	
Anthracene	и	ND		0.00457	*	•	•	-	#	
Benzo (a) anthracene	N	ND		0.00457	n		•	•		
Benzo (a) pyrene	Ħ	ND	l —	0.00457	н .	٠		*	er er	
Benzo (b) fluoranthene	Ø	ND	}	0.00457	•	٠.		•	•	
Benzo (ghi) perylene	н	ND	·	0.00457		•		-	•	
Benzo (k) fluoranthene	. н	ND	<i>!</i>	0,00457			•	- <b>n</b> · · ·		
Chrysene	•	ND		0.00457	h	•	•	н * -		
Dibenzo (a,h) anthracene	•	ND ,		0.00457	n	-	•	v	•	
Fluoranthene		ND		0.00457	•	•	н	•	•	
Fluorene	•	ND (		0.00457		•	**		H	
Indeno (1,2,3-cd) pyrene	н	ND	)··	0.00457			'n	b		

TestAmerica Spokage

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 13:08

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	<u>.</u>	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0046-03	(G-GA3-20-082608)			Soil		Samp	pled: 08/	26/09 10:00			н
Naphthalene		EPA 8270 mod.	ND	UT -	0,00457	mg/kg dry	1x	9090060	09/10/09 09:59	09/13/09 20:12	
Phenanthrene		•	ND	<b>)</b> —	0,00457	•		*	•		
Pyrene		*	ND	<b>ታ</b> —	0.00457	•	•		•	•	
Surrogate(s	): Nitrobenzene-d5			71.8%		38.8	- 139 %	,,		и	
	2-FBP			74.6%		40	- 132 %	#		ti.	
	p-Terphenyl-d14			87.4%		31.7	- 179 %	n		17	,
SS10046-04	(GA-D2-082609)		S	ioil 🚫		Sam	pled: 08/	26/09 10:00			H
1-Methylnapthal	ene	EPA 8270 mod.	ND	UJ —	0,00451	mg/kg dry	1x	9090060	09/10/09 09:59	09/13/09 19:51	<del></del>
2-Methylnaphtha	lene	u	ND	1 —	0.00451	*	H	•			
Acenaphthene		•	ND	) —	0.00451	•	*	•	•	•	
Acenaphthylene		*	ND		0,00451	•	•	•		n .	
Anthracene	4	•	ND	} —	0.00451	*	*		M.	D	
Benzo (a) anthra	cenė		ND	1 —	0.00451	•	•	•		ч	
Benzo (a) pyrene		*	ND	1 -	0.00451	11	•				
Benzo (b) fluorar	nthene		ND	) —	0.00451	•	•	#	#	В	
Benzo (ghi) pery	lene	•	ND	<b>\</b> -	0.00451	•	*	•	**	*	
Benzo (k) fluorar	ithene	tr	ND '	₩	0.00451		ŧ	•	et .	•	
Chrysene			0,00652	J —	0.00451	**	π.		Ħ		
Dibenzo (a,h) ant	hracene		ND	UJ	0.00451	*	*	*	•	•	
Fluoranthene			ND	1 -	0,00451	*	n	u	*	*	
Fiuorene		*	ND	} —	0.00451	•	H		₩ì	*	
Indeno (1,2,3-cd)	pyrene	*	ND	( -	0.00451	×	v	R	**	*	
Naphthalene		w	ND	<b>I</b> —	0,00451	(t			•	8	
Phenanthrene		. *	ND '	<b>*</b>	0.00451		•	•	•		
Рутепе			0.00752	<u> エー</u>	0,00451 -		•				
Surrogate(s)	: Nitrobenzene-d5			69.8%		38.8	- 139 %	#		7f	
	2-FBP			76.8%			- 132 %	U		n	•
	p-Terphenyl-d14			87.6%		31.7	- 179 %	*		и ,	

Test/	merica	Spok	ant
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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/28/09 13:08

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0046-05 (G-GA-D-082609)		Soil	<u>&gt;</u>		Samp	led: 08/2	26/09 15:15			Н
1-Methylnapthalene	EPA 8270 mod.	ND U.	۲	0,00449	mg/kg dry	lx	9090060	09/10/09 09:59	09/13/09 19:29	
2-Methylnaphthalene	•	ND	-	0,00449		•	•		· 16	
Accuaphthene	н	ND		0.00449	7	*	•	•		
Acenaphthylene	•	ND 🛂	_	0.00449	•	п	*	*	*	
Anthracene		0.00749	·	0.00449	•	•	•	r	•	
Benzo (a) anthracene		ND L	<b>r</b> —	0,00449	•	U	*		*	
Benzo (a) pyrene	9	ND (		0.00449	•	au	ħ	н		
Benzo (b) fluoranthene	к .	ND	_	0,00449		•	n		•	
Benzo (ghi) perylene		ND (		0.00449	,	•	u	н	н	
Benzo (k) fluoranthene		ND 🗳	_	0.00449			ь.	н	*	
Chrysene	•	0,00549		0.00449	•	•	μ	•	, 11	
Dibenzo (a,h) anthracene	•	KD (C)		0,00449	•	•	u	•	11	
Fluoranthene		ND U.T		0,00449	•		н		n	
Fluorene		0.00599 J		0.00449		-	n	•	ч	
Indeno (1,2,3-cd) pyrene	•	0.00449 J		0,00449		-	•	•	*	
Naphthalene	•	ND UJ	<i>-</i>	0.00449		•	•	-		
Phenanthrene	•	ND UST	·	0.00449	۳ .		*1	W	*	
Ругепе	•	0.00649		0.00449	10		•	ь .	•	
Surrogate(s): Nitrobenzene-d5		58	3.6%		38.8 -	139 %	,,		n	
2-FBP		60	.4%		40 -	132 %	r		•	
p-Terphenyl-d14		16	04%		31.7 -	179 %	v		**	

TestAmerica Spokene

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fex: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: **Avery Landing** 

Project Number: Project Manager:

073-93312-03 Doug Morell Report Created: 10/28/09 13:08

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result 🗪 N	ADL*	MRL	Units	Djl	Batch	Prepared	Analyzed	Notes
SSI0046-02 (Trip Blank)		Other (S)			Sampled: 09/08/09 00:00					
Dichlorodifluoromethane	8260B STD	ND UJ	8.0	40	ug/Kg	lχ	50920	09/25/09 16:16	09/25/09 22:34	H
Chloromethane	•	ND }	60	400	•			18		H
Vinyl chloride	•	ND \	1.7	8.0	•	•		**	*	H
Bromomethane	н	ND (	25	140		#		•	. н	H
Chloroethane	n	ND	23	400	u	n	н	ti i	¥	H
Trichlorofluoromethane	*	ND	5.0	40	•	•		н		H
1,I-Dichlaroethene	•	ND	5.0	20	•	•	•		•	H
Methylene Chloride	•	ND }	3.8	40	•	•	*	•	•	H
trans-1,2-Dichloroethene		ND	3.5	40	tr		×		• .	H
1,1-Dichloroethane	11	ND }	3.8	40	q	•	, #	н	*	H
2,2-Dichloropropane	*	ND	3.7	40	4	•	и	•	н	H
cis-1,2-Dichloroethene	•	ND )	2.4	40		н	н		•	Ħ
Chlorobromomethane	*	ND (	12	40	**	•			•	Ħ
Chloroform	u	NID }	2.1	40	<b>8</b> 5	. *	II	-		H
1,1,1-Trichloroethane	п	ND	5.0	40	н	*	ji.	-	•	H
Carbon tetrachloride	н	ND	3.7	20	*	*		h	*	H
1,1-Dichloropropene	•	ND	1.8	40		10	*	*	7	H
Benzene	•	ND	2.5	16		•	•	u	•	H
1,2-Dichloroethane		ND (	2.2	40	•	•		'n		H
Trichloroethene		ND	3.4	16	н	ь	•	h	•	H
I,2-Dichloropropane	W	ND (	3.9	12	•	10	•	b	<b>H</b>	H, *
Dibromomethane	H	ND	4.0	40	#	•	*	•	•	. н
Dichlorobromomethane	b	ND	3.0	40	*	•	•	n		H
cis-1,3-Dichloropropene	•	ND	24	16	*	h	•	n	н	H
Toluene	*	ND (	24	40	*	•	•	<b>H</b>	π	H
trans-1,3-Dichloropropene	11	ND	4.0	16	• .	•		•	н	H
I, I, 2-Trichloroethane	"	ND	1.8	12	*	*	•		•	H
Tetrachloroethene ·	b	ND	2.1	20	H	•	•	ıı .	*	H
1,3-Dichloropropane	н	ND	5,0	40			•	U	er .	H
Chlorodibromomethane	n	ND (	8.0	40	н	Ħ	Ħ	<b>n</b> .	4	H
Ethylene Dibromide		ND	3.2	40	**	•	41	•	•	H
Chlorobenzene	H	ND {	2.3	40	•	•	•	•	•	H
Ethylbenzene	п	ND	3.7	40		•		•	•	H
1,1,1,2-Tetrachloroethane	н .	ND (	4.8	40		*	н	•	н	H
1,1,2,2-Tetrachloroethane	h	ND	3.3	10	*	н	•	H	**	H
m-Xylene & p-Xylene	W	ND	7.8	40	4		11	н	*	н
o-Xylene	n ,	ND	2.3	40	*				"	н
Styrene	Ħ	ND 🔭	3.8	- 40			•	· h	•	н

TestAmerica Spokane

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SPOKANE, WA 11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 13:08

### Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result (5)	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
SSI0046-02 (Trip Blank)		Oth	Other (S)		Sampled: 09/08/09 00:00					
Bromoform	8260B STD	ND U	T "	40	ug/Kg	1 <b>x</b>	50920	09/25/09 16:16	09/25/09 22:34	Ħ
Isopropylbenzene	•	ND 1	1.8	40	•	п		и	•	H
Bromobenzene	. •	ND (	2.7	40	•	H	*	U	•	H
N-Propylbenzene	*	ND )	2.8	40	•	**	#	11	•	H
1,2,3-Trichloropropane	•	ND )	12	40		•	•	*	•	н
2-Chlorotoluene	• •	ND	5.4	40	н		•	•	*	H
1,3,5-Trimethylbenzene	•	ND	4.2	40	ú	**			w	Ħ
4-Chlorotoluene	d	ND	13	40	p		٠	d	Ŋ	Ħ
tert-Butylbenzene	•	ND	3.2	40		н	•	щ	H	н
1,2,4-Trimethylbenzene	•	ND	2.1	40	•		•	₹		H
sec-Butylbenzene	•	ND	5.0	40	•			*	•	n
1,3-Dichlorobenzene	u	ND	5.0	40	В		•	•	• ,	Ħ
4-Isopropyltoluene		ND	2.8	40		*	*	Ħ	ь	Ħ
1,4-Dichlorobenzene		ND \	5.0	40		•	•	U	e	H
n-Butylbenzene	•	ND	7.3	40	ч	н	٠	4	<b>u</b>	H
1,2-Dichlorobenzene	•	ND	2.6	40		*	•	•	•	H
1,2-Dibromo-3-Chloropropane	**	ND	. 66	200		*		п	•	H
1,2,4-Trichlorobenzene	H	ND }	5.0	40	•			н		Ħ
1,2,3-Trichlorobenzene	•	ND	5.0	40		*	*	H		H
Hexachlorobutadiene	•	ND (	5.6	40	•		π	11	*	н
Naphthalene	•	ND $\Psi$	6.0	40	•	٠	-	ir	•	H
Surrogate(s): Fluorobenzene (Sur	r)	1	02%		75	- 125 %	п		n	
Toluene-d8 (Surr)			98%		85	- 115 %	ii .		п	
Ethylbenzene-d10		i	02%		75	- <i>125</i> %	n	•	u	
4-Bromafluorobenze	, ,		99%		85.	- 120 %	n		u .	
Trifluorotoluene (Su	rr)	•	92%		75 -	- 125 <b>%</b>	,,			

TestAmerica Spokane

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<u>taras</u> Randee Decker, Project Manager





### ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

### **MEMORANDUM**

DATE:

May 12, 2010

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 08-05-0006

PAN: 002233.0344.01RA

The data quality assurance review of 18 samples collected from the Avery Landing site in Avery, Idaho, was performed by Golder Associates, Inc., Redmond, Washington. The validation was performed in accordance with the Tier III and IV Data Validation Summary Checklist (attached). Target analyte list (TAL) metals (EPA Methods 6010, 6020, and 7471), volatile organic compound (VOC; EPA Method 8260), polychlorinated biphenyl (PCB; EPA Method 8082), diesel-range total petroleum hydrocarbons (Method NWTPH-Dx), and semivolatile organic compounds (SVOCs; EPA Methods 8270 and 8270-SIM) analyses were performed by Test America, Spokane Valley and Tacoma, Washington.

### The samples were numbered:

GRS-1SED-4-090709	GRS-1SED-0-090709	GRS-8SED-3-090709	GRS-8SED-0-090709
GRS-7SED-0-090709	GRS-7SED-4-090709	GRS-2SED-3-090709	GRS-2SED-0-090709
GRS-5SED-0-090809	GRS-5DSED-0-090809	GRS-5SED-4-090709	GRS-6SED-0-090709
GRS-6SED-3-090709	GRS-3SED-4-090709	GRS-3SED-0-090709	GRS-4SED-0-090709
GRS-4SED-4-090709	G-EB-090709		

See the attached Checklists and associated data results pages provided by Golder Associates for qualified sample results.

### METALS & INORGANIC / Tier I & II Data Validation Summary Checklist

GOLDER PROJECT #: 073-93312.	05	S	TE: Avery I	anding/ PO	TLATCH /	Idaho
LABORATORY: Test America	EDIMENT	S	DG: SSI004	9	<del></del>	
SAMPLES GRS-ISED-4	Soir	682-33	FD-4 5	SOIL/	MATRIX	
GRS-1SED-0	( )		ED-O		MENT	
-8 SED-3	$\rightarrow$		ED-0	7 2 = 13		
-8 SED-0	(	4 -4	注 ク・イ	V		,,,
-7 SED-0		<del></del>				
-7 SED-4						
-25ED-3		G-EB-	-09070	9 WA	TER	
O-0325-	)				•	
-55ED-0			-			•
-5DSED-0						
-59FD-4	1					
-62ED-0					·	
-65ED-3	A					
REVIEW ITEM	DATA ASSES	SMENT SU	MMARY Hg/ Se	CN	Anions	OTHER
100,100,7110,71	6010	6020	7470		Z LIII ONS	2 Moistur
1. Data Completeness	601	0000	(3)	-		
2. Holding Times			3		<u>.</u>	<b>1</b>
3. Calibration			-		<del></del>	
4. Blanks	<u> </u>	Ø 🗸				
5. Lab Duplicate, Field Duplicate RPD		200			1	
6. LCS, Blank Spike, MFS						
7. Matrix Spike, MSD						
8. GFAA, MSA Serial Dil	3 X					
9. Detection Limits, Other QC	(A)			•		
10. Data Verification, Overall Summary		0	0		·	
D = Data had no problems  X = Data qualified due to minor problems [typ  M = Data qualified due to major problems [typ  Z = Data unacceptable [typically data rejected]	ically more than 5 (R).	ata (J or UJ)]. 0% qualified (	I/UI).			. (
2 Spociated detects (18) Water Sample G-E		res) es	for V	detect. due to 1	(A11 50-1)	ralities
3) Serial dilution out to 4) Ag Screen level abo	ue MDL k		3 ; Assoc +w RL,-1		qualit.	T)
				`		
Validated by: Reviewed by:	Lofd		Date: Date:	Nov.	, 200°	}

### Acceptable: YES 1. Date Package Completeness (Check if present)..... Case narrative Chain of Custody / Acceptable ✓ Instrument Det. Limits VICP Correction Factors x Absent Sample Results CP Linear Ranges o Not required for ICV/CCV Results Blank Results Preparation Logs data package Analysis Run Logs requested. CP Interference Check Results ✓ICP Raw Data Spike Recovery Results ☑6FAA Raw Data Duplicate Results LCS Results Standard Addition Results ICP Serial Dilution ✓ Hg Raw Data Cyanide Raw Data Comments/Qualified Results:_ 2. Holding Times (Check all that apply)... ICP/GFAA metals completed in <6 months from collection Mercury analyzed in <28 days from collection __Cyanide completed in 14 days from collection See Summary Table Comments/Qualified Results: 3. Calibrations (Check all that apply)..... VICV/CCV %R for ICP/AA, 90%-110%, acceptable ICV/CCV %R for Hg, 65%-79% or 121%-135%, ICV/CCV %R for ICP/AA, 75%-89% or 111%-125%, results estimated (J/UJ) results estimated (J/UJ) ICV/CCV %R 85-115% for Cyanide, results ICV/CCV %R for ICP/AA, <75% or >125%, reject acceptable _ICV/CCV %R 70-84% or 116-130%, results positive results (R) ICV/CCV %R 80-120% for Hg, results accepted estimated (J/UJ) _CRDL Check Stnd %R 70 - 130, (50-150 SbPbTI) __ICV/CCV %R <70% or >130%, reject pos results (R) Comments/Qualified Results:

METALS & INORGANIC / Tier I & II Data Validation Summary Checklist

# Acceptable: YES 4. Blanks (Check all that apply)..... Detects reported in ICB/CCB list: ✓ Detects in preparation blanks, list: ✓ , ୯, __Detects in field blanks, list Qualified as undetected (U) all sample concentrations ≤10X any associated blank concentrations and less than the PQL, or J+ for samples greater than the PQL. Comments/Qualified Results: Th 0014 -36 5. Duplicates (Check all that apply)..... Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X CRDL Duplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CRDL __Field Duplicate ID_ Comments/Qualified Results 6010/6020 on Sample П 7. Laboratory Control Samples, Blank Spikes (Check all that apply)... LCS %R 80-120%, [50-150% for Ag, Sb] LCS %R 50-79% or >120%, results >IDL estimated (J) LCS %R 50-79% and results <IDL estimated (UJ) LCS %R <50% and all results rejected (R/UR) Comments/Qualified Results

METALS & INORGANIC / Tier I & II Data Validation Summary Checklist

METALS & INORGANIC / Tier I & II Data Validation Summary Checklist	
8. Spike Recovery (Check all that apply)	
Spike %R with 75-125% Spike %R 30-74%, >125%, results > IDL est. (J) Spike %R 30-74% results < IDL estimated (UJ)  Spike %R 30-74% results < IDL estimated (UJ)  Spike %R 30-74% results < IDL estimated (UJ)  Spike %R <30%, results < IDL rejected (UR) Field blanks used for spike analysis Post digest spk rqrd: %R 75-125%, except A	V /
Comments/Qualified Results: 6010/6020 Water Sup #9 WB/38	
6019/6020 DOIL#13 MS/MSD	<del></del>
9. GFAA Performance, MSA, or Serial Dilutions	$\langle \rangle$
Duplicate injection RSD <20%Duplicate injection RSD >20%, results > CRDL estimated (J)Analytical spike %R 85-115%Analytical spike %R 40-85%, results > IDL estimated (J)Analytical spike %R 10-40%, results <idl %r="" (p)<="" (uj)analytical="" <10%="" <idl="" estimated="" results="" spike="" td=""><td></td></idl>	
Comments/Qualified Results: Ser. D: (#9 Water	
8. Spike Recovery (Check all that apply)  Spike %R with 75-125% Spike %R 30-74%, >125%, results > IDL est. (J) Spike %R 30-74%, >125%, results < IDL estimated (UJ)  Post digest spk rqrd: %R 75-125%, excpt As  Comments/Qualified Results:  6010/6020 Water Sunt #9  Buplicate injection RSD <20% Duplicate injection RSD >20%, results > CRDL estimated (J) Analytical spike %R 40-85%, results > IDL estimated (UJ) Analytical spike %R 10-40%, results < IDL estimated (UJ) Analytical spike %R 10-40%, results < IDL estimated (UJ) Analytical spike %R 10-40%, results < IDL estimated (UJ) Analytical spike %R 47-10%, results < IDL estimated (UJ) Analytical spike %R 47-10%, results < IDL rejected (R)	11
	<del></del>
10. Detection Limits, Other QC	D
	<del></del>
	— ((ZT)
. /	
Comments/Qualified Results:	
	<u>.</u>



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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 14:26

### Metals (ICP)

TestAmerica Tacoma

			TOOL HIM	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7011112			·		
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-01	(G-RS1SED-4-090709)	Soi	Soil Sampled: 09/07/09 13:50							
Calcium	6010B TMP Dry	1300	1.7	63	mg/Kg dry	1×	50667	09/22/09 10:39	09/22/09 20:50	
lron	ų	13000	0.53	11				N		
Magnesium	Jr.	3000	0.75	63	n		•	n	•	
Potassium	ж.	760	18	190	•	•	٠	<b>H</b>		
Silver	•	ND	0.051	1.1		•	*	•		
Sodium .	N	ND	7.8	110	•	•	•	'n	09/23/09 17:33	•
SSI0049-02	(G-RS1SED-0-090709)	Soi	1		Samp	led: 09/0	7/09 13:55			
Calcium	6010B TMP Dry	830	2.1	77	mg/Kg dry	lx	50667	09/22/09 10:39	09/22/09 20:54	*
Iron	•	13000	0.65	14			•	•	*	
Magnesium		3300	0.93	77		•	•	11 .	r *	
Potassium	•	900	22	230		. •	•		H	
Silver	•	ND	0.063	1.4	. #	•	. •		Ħ	
Sodium	•	ND	9.5	140	и		•	*	09/23/09 17:35	•
SSI0049-03	(G-RS8SED-3-090709)	Soi	ı		Samp	led: 09/0	7/09 14:45			
Calcium	6010B TMP Dry	1200	1.8	65	mg/Kg dry	lx	50667	09/22/09 10;39	09/22/09 20:58	
Iron	ti .	13000	0.54	12		U	σ		•	
Magnesium	•	3400	0.78	65		#	•	R		
Potassium	•	910	19	190	٠	-		•	•	
Silver	•	ND	0.053	1.2	•	•	*	•	•	
Sodium	•	ND	8.0	120		•	٠		09/23/09 17:37	
SS10049-04	(G-RS8SED-0-090709)	Soil	l	•	Samp	led: 09/0	7/09 14:50			
Calcium	6010B TMP Dry	1100	2.2	81	mg/Kg dry	1x	50667	09/22/09 10:39	09/22/09 21:01	
Iron	•	15000 ,	0.67	15		н	•	<b>"</b>	•	
Magnesium	<b>H</b>	4400	0.97	81	•	•	U	•	•	
Potassium	•	1300	23	240			•	н		
Silver	•	ND	0.066	1.5	, ,		• .	•	•	
Sodium	•	מא	10	150						

TestAmerica Spokane

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Randee Decker, Project Manager

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SPOKANE, WA

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Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/28/09 14;26

### Metals (ICP)

TestAmerica Tacoma

				Testranic	iica i a	COITE					
Analyte		Method	Result	MDL	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10049-05	(G-RS7SED-0-090709)		Soi	1		Samp	led: 09/0	07/09 15:30			
Calcium	•	6010B TMP Dry	1200	2.0	74	mg/Kg dry	1x	50667	09/22/09 10:39	09/22/09 21:06	
Iron		•	14000	0.62	14	"	*	B.	41	•	
Magnesium		n	4480	0.89	74	•	*	•	•	•	
Potassium		•	1400	22	220	•	•				
Silver		,	ND	0.061	1,4	٠.		4		-	
Sodium		*	ND	9.2	140	₩	*	ŧ		09/23/09 17:41	. •
SS10049-06	(G-RS7SED-4-090709)		Soi	)		Samp	led: 09/0	7/09 15:25			
Calcium		6010B TMP Dry	590	1.7	63	mg/Kg <b>dr</b> y	Jx	50667	09/22/09 10:39	09/22/09 21:09	
Iron		<b>M</b>	11000	0.53	11	n	π	n	*		
Magnesium			2200	0.76	63	*	н		•		
Potassium		u	560	18	190	•	•	•	•	π.	
Silver		•	0.053	0.052	1.1	*	#	*	•	tr .	
Sodium		u	ND	7.8	110		"	Ħ,	4	09/23/09 17:44	*
SSI0049-07	(G-RS2SED-3-090709)		Soi	· !		Samp	led: 09/0	7/09 16:15			
Calcium		6010B TMP Dry	2700 -	1.8	67	mg/Kg dry	1 <b>x</b>	50667	09/22/09 10:39	09/22/09 21:14	
Iron	•	v	12000	0.56	12	b		*	₩		
Magnesium		•	3600	0.81	67	<del>*</del>	=	*	•	#	
Potassium	•	•	690	20	200	*		9	. •	*	
Silver	•	<b>M</b> , '	ND	0.055	1.2	•		. #	•	п .	
Sodium		**	ND	8.3	120		•	и		09/23/09 17:46	*
SS10049-08	(G-RS2SED-0-090709)		Soil	i		Samp	led: 09/0	7/09 16:20			
Calcium		6010B TMP Dry	8500	2.0	72	mg/Kg dry	lx	50667	09/22/09 10:39	09/22/09 21:19	
lron	•	•	14000	0.60	13			*	•	•	
Magnesium			5300	0.87	72	*	•	•	•		
Potassium		*	1200	21	220	•	•	•	•	•	
Silver			ND	0.059	1.3		n		*	*	

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Project Name:

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Project Number: Project Manager: 073-93312-03

Doug Moreli

Report Created: 10/28/09 14:26

### Metals (ICP)

TestAmerica Tacoma

			I CSLATIII	W1011 1 41						
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-10	(G-RS5SED-0-090809)	Soi	1		Samp	ied: 09/0	8/09 <b>08:3</b> 0			
Calcium	6010B TMP Dry	1300	2.1	77	mg/Kg dry	1x	50667	09/22/09 10:39	09/22/09 21:23	
Iron	, II	16000	0.64	14	•		×			-
Magnesium	<b>4</b>	4100	0.92	77	• .			Ħ	• .	
Potassium	•	1200	22	230	,	и	4	#	₩	
Silver	•	ND	0.063	1.4	u	*	ıı	•	*	
Sodium	<b>n</b> .	ND	9.5	140		*	ħ		09/23/09 17:51	
SSI0049-11	(G-RS5DSED-0-090809)	Soi	ı		Samp	led: 09/0	8/09 08:35			
Celcium	6010B TMP Dry	1400	2.0	74	mg/Kg dry	Ιx	50667	09/22/09 10:39	09/22/09 21:26	
Iron	•	16000	0.62	14	•	п		•	Ħ	
Magnesium	•	4100	0.89	74			•	<b>H</b> .	*	
Potassium	•	1100	22	220	ú	•	•	×	H	
Silver	h	ND	0,061	1.4	•	* .		19	и	
Sodium		ND	9.2	140	•	R	.*	4	09/23/09 17:53	*
SS10049-12	(G-RS5SED-4-090809)	Soi	!		Samp	led: 09/0	8/09 08:45			
Calcium	6010B TMP Dry	970	1.8	65	mg/Kg dry	lx	50667	09/22/09 10;39	09/22/09 21:38	
Iron	• .	12000	0.55	12	*			B)		4
Magnesium		2800	0.78	65	μ.	*	•	w		-
Potassium	•	980	19	200	•	•	•	N	*	
Silver	π	ND	0.053	1.2	7	•	•		*	
Sodium	11	ND	8.3	120	• '	•	•	•	09/23/09 18:01	•
SSI0049-13	(G-RS6SED-0-090809)	Soil	Ø		Samp	led: 09/0	8/09 07:40			
Calcium	6010B TMP Dry	1000	1.9	70	mg/Kg dry	ìχ	50667	09/22/09 10:39	09/22/09 20:23	-
[ron	я.	16000 🕽	0.58	13		•	•	u		أسب
Magnesium	и :	4300	0.84	70		*		. <b>"</b>	*	ر ُ
Potassium	*	1100	20	210		•	*	Ħ	n	
Silver	•	ND	0.057	1,3	η .	•	•	•	Ħ	
Sodium										

TestAmerica Spokane

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Project Name:

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Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/28/09 14:26

### Metals (ICP)

TestAmerica Tacoma

			LestAme	пса та	coma						
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
SSI0049-14	(G-RS6SED-3-090809)	So	il		Samp	led: 09/	08/09 07:35				
Calcium	6010B TMP Dry	890	2.1	78	mg/Kg dry	Эx	50667	09/22/09 10:39	09/22/09 21:42		
Iron	•	15000	0.65	14	r	-	Ħ	н .	•		1
Magnesium	•	4000	0.94	78	•	•	11	u	•		1
Potassium	•	1100	23	230	•	•	'n	ıı	•		
Silver	•	ND	0.054	1.4				*			
Sodium		ND	9.7	140	r				09/23/09 18:04	•	
SSI0049-15	(G-RS3SED-4-090809)	Soi	i	-	Samp	led: 09/	)8/09 <b>11:</b> 15				
Calcium	6010B TMP Dry	1500	1.7	62	mg/Kg dry	lx	50667	09/22/09 10:39	09/22/09 21:46	-	
Iron	ħ	16000	0.52	11	W		4	b	•		3
Magnesium	n n	3000	0.74	62	*	•	•	n	er .		1
Potassium	#	880	18	180	41	×	•	-	•		
Silver	ь	ND	0.050	1.1	н	*		41	•		
Sodium	•	ND	7.6	110		•			09/23/09 18:06	•	
SSI0049-16	(G-RS3SED-0-090809)	Soi	1		Samp	led: 09/	8/09 11:10			•	
Calcium	6010B TMP Dry	1400	1.9	71	mg/Kg dry	lx	50667	09/22/09 10:39	09/22/09 21:50		
Iron		14000	0.59	13	*	*	h	п	•		I
Magnesium	ь	3300	0.85	71	*	•	•	41	•		J
Potassium	в .	1000	. 21	210	*	•	•	•	•		
Silver	. н	ND	0.058	1.3	•		•				
Sodium	•	ND	8.8	130	19	•	•	•	09/23/09 18:08		
SSI0049-17	(G-RS4SED-0-090809)	Soi	 1		Samp	led: 09/0	8/09 12:20				
Calcium	6010B TMP Dry	1100	1.8	65	mg/Kg dry	İχ	50667	09/22/09 10:39	09/22/09 21:54		
Iron	•	13000	0.55	12	• 1	•	u	•	<b>H</b>		E
Magnesium		2800	0.78	65	h	и	•	*	M	•	ř
Potassium	•	750	19	200	-	n		•	ш		
Silver	4	ND	0.054	1,2	×						

TestAmerica Spokane

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Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/28/09 14:26

### Metals (ICP)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-18	(G-RS4SED-4-090809)	Soi	1		Samp	led: 09/0	8/09 12:25			
Calcium	6010B TIMP Dry	850	1.7	63	mg/Kg dry	1x	50667	09/22/09 10:39	09/22/09 21:57	
Iron	•	12000	0.52	11		*		*	•	
Magnesium	*	2300	0,75	63	*	# 1		H	**	
Potassium	•	590	18	190	₩.		*	Ħ	11	
Silver	n	ND	0.051	1.1	•	9	n	н		
Sodium	<b>n</b>	. MD	7.7	110	₩		Ħ		09/23/09 18:13	* 1

TestAmerica Spokane

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Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/28/09 14:26

#### Metals (ICP/MS)

Test America Tagoma

			TestAme	erica Taco	oma					
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SI0049-01	(G-RS1SED-4-090709)	Soil	[		Samp	led: 09/0	7/09 13:50			
Juminum	6020 TMP Dry	4700 .	0.34	34 1	mg/Kg dry	10x	50667	09/22/09 10:39	09/22/09 13:45	
rsenic	•	7.3	0.00089	0.23	•	•		u	4	
intimony	*	3.5	; 0.0075	0.23			•	•	н	_
larium		34	0.0017	0,23	*	•	•		. 4	
eryllium	¥	0.26	0.00079	0,23	•	•	•	* _		
enium.	•	0.061	0.00054	0.23	l "		•		•	المسر
hromium		7.1	0.0046	0.23						
obalt	*	6.4	0.00962	0.23		*	•	и	Ħ	
opper	•	50	0.0037	0,23	•		*	а	•	
ead	*	45	0.0011	0.23	•			ħ	,	
langanese	•	170	0.018	0.57	•	×		Ħ	•	
ickel	•	9.9	0.0042	0.23		Ħ	•			
elenjum	*	0,095	0.0021	0.57 <b>U</b>	. •		•	n	•	لغب
hellium .	•	0.076	0.0046	0.46 U	L *	•	•	■ .	•	ير
anadium	Ħ	14	0.003]	0.23				•	• .	
ine		34	0.017	0.80		h	•		•	
SI0049-02	(G-RS1SED-0-090709)	Soîl			Samp	leđ: 09/0	7/09 13:55			
Jeminum	6020 TMP Dry	5300	0.42	42 n	ng/Kg dry	10x	50667	09/22/09 10:39	09/22/09 13:50	
rsenic	ħ	5.8	0.0011	0.28			•	×		ميسد.
ntimony	•	1.3	0.0093	0.28		•	•	h		
arium	•	31	0.0021	0,28		*	•	H	•	
eryllium	. •	0,24	0.00097	0.28		•	•	H		
edmium		0.023	0.00966	0.28	<b>火</b>	•	•	•	•	لميس
hromium .		6.7	0.0056	0.28	4		•		tu	*
obalt	•	5,2	0.00076	0.28			•		n	
			0.0045	0.28			. •			
		23	0.0043							
pper		23 18	0.0014	0.28		•	•	•	u u	
opper ead	:			0.28	*		*		•	
opper ead angantse	:	18 140	0.0034		3 6	:	# #		# #	
opper end unganese ickel	:	18 140 9.0	0.0034 0.022	0.70	**	•	н н к	*		يسر
opper cad anganese ickel Jenium		18 140 9,0 	0.0014 0.022 0.0052	0.70 0.28	•		н н к ж	** ** **	•	چىر بار
opper end engantse ickel denium rallium	•	18 140 9.0	0.0014 0.022 0.0052 0.0026	0.70 0.28 0.70 <b>L</b>	•		16 16 17 17 18	•		الحسب إضر

TestAmerica Spokane

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<u>tardi</u> Randee Decker, Project Manager





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Project Name:

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Project Number. Project Manager: 073-93312-03 Doug Morell

Report Created:

10/28/09 14:26

### Metals (ICP/MS)

TestAmerica Tacoma

Analyte	Metho	d Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-07	(G-RS2SED-3-090709)	So	il .		Sam	pled: 09/0	7/09 16:15			
Aluminum	6020 TMP D	ry 4100	0,37	37 m	ig/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:16	
Arsenic	н	6.2	0.00095	0.24	*		*			,
Antimony		5.5	0.0081	0.24	4		4	,	= (€	
Barium		24	0.0018	0,24	*	r	•	•	n	
Beryllium	•	0.16	0.00084	0,24	•		h	н	•	
Cadmium	•	0.0067	0.00057	0.24		•		t t	*	سد ۱۰۰۰
Chromium	•	5,3	0.0049	0,24		*	•	*	a	
Cobalt	•	5.0	0.00066	0,24	*	•	н	•	4	
Copper	•	18	0.0039	0.24	4			•		
Lead	•	24	0.0012	0.24	•	*	н	•	и	
langanese	н	150	0.020	0,61		н	•	*		
iickel	*	8.6	0.0045	0.24	Ħ		•		•	
elenium	•	سيلو	0.0023	0.61 <b>[</b> ]		•	•	¥	n	
halliem	ħ	0.059	0.0049	0.49 <b>LL</b>	. "		n		×	
anadium	*	14	0.0033	0.24		в			•	
linc	a a	. 22	0.018	0,86	•	• '		•		
SI0049-08	(G-RS2SED-0-090709)	Sai	ì		Samp	oleđ: <b>0</b> 9/0	7/09 16:20			
.luminum	6020 TMP Di	y <b>670</b> 0	0.39	39 m	g/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:22	
Lrzenic	•	7.6	0.0010	0.26		tr	*	n	e	-
ntimony	*	1.9	0.0087	0.26	e .		•	и	. •	,
arium	•	46	0.0020	0.26	*	*	,	**	#	
Beryllium	*	0.29	0.00090	0.26	*	*	•	Ħ	. *	
admium.	н	_0.018	0.00062	0.26 L	( "	•				ئىر.
hromium	*	8,2	0.0052	0.26	•		11	11	н	
obalt		7,1	0.00071	0,26		4	*	4	et	
Copper	-1	58	0.0042	0.26	п	. *	. *	4	•	
cad	•	17	0.0013	0.26		•			ь.	
апрапеве	•	260	0.021	0,66	*	•	•	я	**	
ickel	a	12	0.0049	0.26	•			•	•	
elenium			0.0025	0.66	. •	п		•		ز
hallium	•	0.098	0.0052	0.52 LL		• .			er er	, ,
anadium	в	16	0.0035	0,26	•	*	H	*	<b>H</b>	• •
inc		28	0.020	0.92 —						

TestAmerica Spokane

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Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax: (509) 924.9290

**Avery Landing** Project Name:

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created: 10/28/09 14:26

### Metals (ICP/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10049-16	(G-RS3SED-0-090809)	Soi	1		Samp	led: 09/0	8/09 11:10		· · · · · · · · · · · · · · · · · · ·	
luminum	6020 TMP D _{IV}	5100	0.39	39 m	g/Kg dry	10x	50667	09/22/09 10;39	09/22/09 15:04	
rsenic		10	0.0010	0.26	•	· If		•		
ntimony	•	2,3	0.0085	0,26	•	*	*			
arium		32	0.0019	0,26	•	4	•	Ħ		
eryllium	и	0.26	0.00089	0.26	×	•	. *	*	*	
admium		0.032	0.00061	0.26	"	•	*		•	_
hremium	*	6.2	0.0052	0,26	H	*	*	*	•	
obalt	4	6.8	0.00070	0.26	*	•	*	. "	*	
opper	п	17	0.0041	0,26	*			н	*	
ead		11	0.0013	0.26	•	ų.	*	W	ų	
anganese	н	170	0.021	0.64	•	P	•	Ħ	W.	
ickel	· H	13	0.0048	0.26		*	•	u	*	
denium	*	0.12	0.0024	0.64 LL			,	•	*	
allium	•	0.075	0.0052	0.52 LL	. •	7	•	**	п	
anadiom	· •	15	0.0035	0.26	н .	•	•	**	u	
inc		32	0.019	0,90	•	*	•	tr	fe	
S10049-17	(G-R\$4SED-0-090809)	Soil	l '		Samp	led: 09/0	8/09 12:20			
uminum	6020 TMP Dry	4600	0.36	36 m _l	g/Kg dry	10x	50667	09/22/09 10:39	09/22/09 15:09	
rsenic	Э н	16	0.00093	0,24	h	•	*	H .	•	
itimony	· ir	24	0.0078	0.24	n		.0	<b>H</b> .		
rium	ч	35	0.0018	0,24			8	•	•	- '
ryllium:	. •	0.24	0.00082	0.24			w	п	•	
admium	*	ND	0.00056	0,24		•			•	
	•	6,1	0.0048	0.24		**	•	H	•	
hromium				0.24	*	•	•	•	•	
bromium obalt	π	6.3	0,00064							
balt	. σ		0.0038	0.24	•		•	•	•	
balt pper	•	6.3 23 48		0.24 0.24						
balt pper ad	•	23	0.0038		e n n			#1 #1		
obalt opper ad anganese	•	23 48 91	0.0038 0.0012	0,24	e n n	# # #	 	11 11 29		
obalt opper ad anganese ckel	•	23 48 91 9.2	0.0038 0.0012 0.019	0,24 0,59	п	# # #		11 11 19		
obalt opper ad anganese ckel lenium	• • • •	23 48 91 9.2 0.13	0.0038 0.0012 0.019 0.0044	0,24 0,59 0,24	n n	*		" " " " "		
	*	23 48 91 9.2	0.0038 0.0012 0.019 0.0044 0.0022	0.24 0.59 0.24 0.59 U	n n	* * * * * * * * * * * * * * * * * * * *	. ч 	** ** ** ** ** **		

TestAmerica Spokane

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SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302

ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name: Avery Lauding 
18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Manager: Doug Morell

10/28/09 14:26

# Metals (ICP/MS) TestAmerica Tacoma

Method MRL Analyte MDL* Dil Batch Analyzed Notes Result Prepared Sampled: 09/08/09 12:25 Soil SSI0049-18 (G-RS4SED-4-090809) 09/22/09 10:39 6020 TMP Dry 3900 0.34 09/22/09 15:14 Aluminum 0.00089 0,23 Arsenic 16 Antimony 1.1 0.0075 0.23 24 0.0017 0,23 Barium Beryllium 0.17 0.00079 0,23 0.015 0.00054 0.23 LL Cadmium 5.0 0.0046 0.23 4.1 0.00067 0.23

Chromium Cobalt Copper 17 0.0036 0.23 12 0.0011 0.23 Lead 180 0.018 N 57 Manganese Nickel 8.9 0.0042 0.23 Selenium 0.0021 0.57 LL Thallium 0,049 0.0046 0.46 LL 0.0031 0.23 Vanadium 12 0.017 0.80 Zinc 21

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 9920G-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 14:26

### Metals (ICP/MS) Total Recoverable

TestAmerica Tacoma

Anályte		Method	Result	MDL*	MRIL	) Units	Dil	Batch	Prepared	Analyzed	Notes
SS10049-09	(G-EB-090709)		W	iter		Sam	pled: 09/0	7/09 17:00			
Antimony		6020 Total Recoverable	ND	0.00040	0.0020	mg/L	5x	50762	09/23/09 13:31	09/23/09 22:38	
Arsenic		• .	ND	0.00024	0,0020	*	11		•	•	
Barium			ND	0.00027	0.0060	•	H	н	*	•	
Nickel		•	ND	0.00022	0,0020		7		N	•	*
Beryllium		٠.,	ND	0.00026	0.0020		w	n	n	•	
Selenium		•	ND	0.00034	0,0020	•	•	**	N	•	
Cadmium	·	•	ND	0.00014	0,0020				•	•	•
Silver		•	ND	0.00015	0,0020	•	•	•		н	
Chromium			0.00892	0.00037	0.0020	は "	•	•	Ħ	н	<del></del>
Thallium	•		ND	0,000060	0,0040	*	н ,	•	•	н	
Cobalt		•	ND	0.00016	0,0020	u	u	•	•	**	^
Vanadium		•	0.0048	0.00023	0.0020	-f- "	**	*	•	•	
Соррег		•	0.00024	0.00015	0,0050	a	u			*	7,^
Zinc	•		0.0092	0.0020	0,0070	Ħ		•	Ħ	•	^
Lead		•	ND	0.90017	0,0020	н	R		•	n	

N 11-9-09

TestAmerica Spokane

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11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924,9200 fax: (509) 924,9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number:

073-93312-03

Report Created:

Project Manager:

Doug Morell

10/28/09 14:26

### Metals (ICP) Total Recoverable

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzeď	Notes
SS10049-09	(G-EB-090709)		Wı	iter		Samj	pled: 09/0	7/09 17:00		•	
Aluminum		6010B Total Recoverable	ND	0,31	0,50	mg/L	1x	50762	09/23/09 13;31	09/23/09 20:20	
Calcium		•	ND	0.028	1.1	4		•		4	
Iron			ND	0.032	0.20	•			n	•	•
Magnesium		*	ND	0.23	1.1	•	9	ĸ	41	. •	
Potassium		*	ND	0.41	3,3	•	•		H	H	
Sodium		n	ND	0.18	2.0		•	•	•		
Manganese		7	ND	0.0017	0.020			**	•		

TestAmerica Spokane

Randee Decker, Project Manager

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11922 E. IST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number.

073-93312-03

Project Manager: Doug Morell

Report Created: 10/28/09 14:26

### Metals (ICP/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-10	(G-RS5SED-0-090809)	Soi	ì		Samp	led: 09/0	8/09 08:30			
luminum	6020 TMP Diy	6900	0.42	42	mg/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:27	
rsenic		8.5	0.0011	0.28	•		*		•	
ntimony	n	1,2	0.0092	0.28	•	•	•	*	*	
arium	8	39	0.0021	0.28	w.	• .	*	*	*	
eryllium	·	0.28	0.00097	0.28	n	•	• .	"	* * **	
ndmium	a	0.0077	0.00066	0.28	<b>.</b> "	-	*	н	•	
iromium		7.8	0.0056	0.28		•	и	п	•	
obalt	•	6.8	0.00076	0.28	15	-	4	н	•	
opper	•	22	0.0045	0,28	B	•	•	n	•	
ead		13	0.0014	0.28	•	•	u		•	
anganese	ti	210	0.022	0.70			u	h	*	
ickel		12	0.0052	0,28	•		ч	u	Ħ	
lenium	#	سجدالي	0.0026	0.70 <u>į</u>	Į "	•	ч	н	•	
allium	ń	0.088	0.0056	0.56 🕻	į, r		и.	n	*	٠
anadjum	*	16	0.0038	0.28		•		4	•	
DC	*	30	0.021	0,98		*	•	ь	•	
S10049-11	(G-RS5DSED-0-090809)	Soi	l	•	Samp	led: 09/0	8/09 08:35			
ıminum	6020 TMP Dry	7000	0.41	41 1	mg/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:32	
senic	•	9.0	0.001]	0.27	•	•		et	•	
timony	•	1.0	0,0089	0.27		•	•		•	
ırinm	•	41	0.0020	0,27	þ	•	:	*	*	
ryllium	<b>.</b> .	0.28	0.00093	0.27		*	v	· •		
dmium	7	0.0027	0.00064	0.27	, ·		υ.,	ж	•	-
eromium	*	7.9	0.0054	0.27			P	*	•	
balt	*	7.0	0.00073	0,27	•		b	<b>4</b> 1 .		
ррег	ĸ	21	0.0043	0,27	•	4		•		
ad .	н•	14	0.0014	0,27	•	*	*	•	•	
anganese	н	190	0.022	0,68		-	•	. •	F	
ckel	Ħ	. 11	0.0050	0.27				•	ti	
enium	*	0.25	0.0025	0,68 🕻	( •	Ħ	*		5	~
ellium	*	9,087	0.0054	0.54 🔱		-	•		н	_
				•						
madium	•	17	0.0037	0.27	¥	•	•	•		

TestAmerica Spokane

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SPOKANE, WA 11922 E. 15T AVENUE 5POKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Project Manager:

Doug Morell

Report Created: 10/28/09 14:26

### Metals (ICP/MS)

TestAmerica Taca

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10049-12	(G-RS5SED-4-090809)	Soi	il		Samp	led: 09/0	8/09 08:45			
Alumínum	6020 TMP Dry	5000	0.36	36 г	ng/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:48	
rsenic	•	28	0.00093	0.24	n	•	•	*	,	
ntimony	*	8.3	0.0078	0.24			'n	**	•	
arium	*	37	0.0018	0.24		77	js.	₩ ,		
eryllium	*	0,26	0,00082	0.24		ь	и .	Ħ	*	
admium	п	0.026	0.00056	0,24 し	<u>.</u> •	н		•	M	
hromium		7.8	0.0048	0.24	*	н	D	. *	•	
obalt	Ħ	5.0	0.00064	0.24	*		w	×	ж.	
opper		28	0.0038	0.24	Ħ	•	*	•	*	
ead	•	23	0.0012	0.24	*	*			*	
anganese		<del>9</del> 1	0.019	0.59	7	•	n	ď		
ickel		8.8	0.0044	0.24		•	н		*	
elenium	•	0.12	0.0022	0.59 <b>t</b>	"	•	'n	•	* *	أمس
allium		0.087	0.0048	0.48 🕻	<b>u</b>	-	))	<b>#</b>	•	
enadium	•	15	0.0032	0.24	**	-	*	π	•	
inc	•	70	0.018	0.83	П	•		•	T H	
SI0,049-13	(G-RS6SED-0-090809)	Soil	Ì		Samp	led: 09/0	8/09 07:40		•	
lumin um	6020 TMP Dry	6900	0.38	38 п	ng/Kg dry	10x	50667	09/22/09 10:39	09/22/09 12:57	
rsenic	•	7.1	0.00099	0.25	-	н	4	•		_
timony	• .	0,85	0.0084	0.25		н	-	•	*	
rium .	•	36	0,0019	0.25	•	н		•		
ryllium	. •	0.27	0.00087	0.25	77	*			₩.	
admiunt	•	_0.019	0.00060	0.25	. *	*	•	•		للسب
hromium	•	7.8	0.0051	0.25		41			*	•
obalt	*	6.7	0.00068	0.25	•	•			•	
	•	24	0.0041	0.25				•		
pper			0.00/3	0.25	п	м		н		
	, п	14					_			
ed	п и	14 160	0,020	0.63	Ħ	*	•		•	
ad anganese	л 11			0.63 0.25	# n	*	7	н	н	
ad anganese ckel	# *	160	0,020			*	7	7	# #	لد
ad anganese ckel lenjum	* * * *	160 12	0,020 0.0047	0.25	•	95 16 16	7 71 11	*	и П Н	ار نر
opper ad anganese ckei lenium allium madjum	•	160 12	0,020 0.0047 0,0024	0.25 0.63 <b>U</b>	•	95 91 94 94	" " " " "	11 14 14 15	11 11	للر. المر

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99205-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager: 073-93312-03 Doug Morell

Report Created: 10/28/09 14:26

Metals (ICP/MS)

Analyte	Meth	od Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
S10049-14	(G-RS6SED-3-090809)	So	oil		Samp	led: 09/0	8/09 07:35			
Aluminum	6020 TMP I	Ory <b>6500</b>	0.43	43	mg/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:53	***
Arsenic	•	9,9	0.0011	0,28	n		*		u	
Antimony		0,93	0.0094	0.28	ài		77		ч	
Barium	•	49	0.0021	0.28	•		11	•	•	
ecyllium	•	0,26	0.00098	0.28	•	**	*		•	
admium		0.013	0.00067	0.28	ι.	•		n	•	
hremium	ь	7.1	0.0057	0.28	•			#	• .	
obalt	· n	7.2	0.00077	0.28	•	7	*			
opper	n n	22	0.0045	0.28	•	. *	•	•		
end	Ħ	11	. 0.0014	0.28		•	ĸ	н	*	
langanese	•	160	0.023	0.71	•	. •	*	n	•	-
ickel		13	0.0053	0.28	n	•	•	•	•	
elenium	•	B.H&	0.0027	0.71	Ĺ "		•		*	-
kelliom		0.092	0.0057	0.57	L "	۳	•	*	•	_
anadium		15	0.0038	0.28	4)	=	•	•	•	
inc	•	30	0.021	0.99	•	•	4	*	•	
S10049-15	(G-RS3SED-4-090809)	So	il		Samp	led: 09/0	8/09 11:15			
munines!	6020 TMP D	ry 5000	0.34	34 1	mg/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:59	
rsenic	* <b>#</b>	9.9	0.00087	0.22	*	•	•	• .		
ntimony	, #	1.3	0.0074	0,22		•		•	п	
arium	•	38	0.0617	0.22		•		<b>M</b>	н	
erylliom		0,24	0.00077	0,22		*		H	•	
admium	•	_0.016	0.00053	0.22	ι.		•	•	*	
hromium	· · · · · ·	6,2	0.0045	0,22		•		n		•
obalt		8,4	0.00061	0.22		•	•	77	я	
оррег	•	23	0.0036	0.22	*		н	. #		
ad		20	0,001 [	0,22	•			11		
anganese		420	0.018	0,56		н	*			
ickel	•	10	0.0041	0.22	•	-		•	,	
Jenium		سييلو	0.0021	D.56 🖺	١.		•	• .		س
			0.0045	0.45	į .		н	*	*	سع
mgiller	•	0.069	0.0072	-1.00	•					-
hallium Anadium	•		0.0030	0,22			н	*		_

TestAmerica Spokane

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<u>(ardis</u> Randee Decker, Project Manager





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/28/09 14:26

### Metals (ICP/MS)

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
SS10049-05	(G-RS7SED-0-090709)		Soi	1		Samp	led: 09/0	7/09 15:30	15:30			
Aluminum	60:	20 TMP Dry	6900	0.41	41	mg/kg dry	10к	50667	09/22/09 10:39	09/22/09 14:06		
Arsenic	•	4	7.0	0.0011	0.27	н		•	Ħ	,	• _	
Antimony		•	0,68	0.0089	0,27	"	н	*	**	•		
Barium		•	38	0.0020	0,27	a	N	*	•1	ь		
Beryllium		н .	0,28	0.00093	0.27	•	**	•	*	ii		
Cadmium			0.023	0.00063	0.27	ц.	4	u	ĸ	н	لم	
Chromium		•	7.7	0.0054	0,27	*	41	μ	н	*		
Cobalt		•	7.4	0.00073	0,27	Ħ	*	h		•		
Copper		*	20	0.0043	0.27	•	•	Ħ	. "	•		
Lead		•	8.2	0.0014	0.27	•	•	•	*	•		
Manganese		*	87	0.022	0,68	•		٠	*			
Nickel		•	10	0.0050	0,27	•	n	•	π	н		
elenium		•	JUH .	0.0025	0.68	<b>.</b> .	π	•	π	b	لخسر	
`ballium		ņ	_0.10_	0.0054	0.54	L "	er .	•	•	•	للسد	
/enodium			17	0.0036	0.27	#	•		н			
Sinc		•	31	0.020	0.95	*	×	•		*	-	
SS10049-06	(G-RS7SED-4-090709)		Soil			Sampi	led: 09/0	7/09 15:25				
Liuminum	602	O TMP Dry	3300	0.34	34	mg/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:11		
rsenic		•	7.5	0.00089	0.23		#	*	•	*	-	
Latimony		•	210	0.0076	0,23		#	•	•	#	_	
lacium .	•	•	16	0.0017	0.23	н		•	н	я		
Beryllium		•	0.13	0.00079	0.23		•	N	*			
Cadmium		•	ND	0.00054	0,23	h ,	Ħ	•	11	*		
Chromium			5.9	0.0046	0,23		•		н	•		
Cobalt		•	4.8	0.00062	0.23	•	٠			•		
Copper		•	36	0.0037	0.23	•	•	•	•	•		
cad		•	600	0.0011	0.23		#	2)	•			
(anganese		•	110	0.018	0,57		a			*		
ickel		•	7.6	0.0042	0.23		ч	ĸ		H		
elenium			_0.085	0.0022	0.57 🕻	L "			н	₩.	بنسبع	
hallium		۲	0.051	0.0046	0.46	ι.			н :		بلد	
anadium		₩	9.6	0.0031	0.23	•		,	п			
inc			24	0.017	0,80		H		•	h		

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/28/09 14:26

### Metals (ICP/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10049-03	(G-RS8SED-3-090709)	Soi	ı		Samp	led: 09/0	7/09 14:45			<u> </u>
Aluminum	6020 TMP Dry	5400	0.35	35 л	ig/Kg dry	10×	50667	09/22/09 10:39	09/22/09 13:55	· -
Arsenic	Ħ	5.4	0.00092	0,24		ti.	•	ŧ		
Antimony	u·	0.75	0.0078	0,24	•		*	*	•	_
arium	*	27	0.0018	0.24		4	•	н	•	
eryllium	tr .	0,21	0.0008)	0,24	•	'n	•	•	•	
admissm	•	0.014	0.00055	0.24 U	. •	Ħ	•	•	н	يد
h remium	•	6.3	0.0047	0,24	•		•	×		
obalt	•	7.7	0.00064	0.24	•	н	•	h	ч.	
pper		18	0.0038	0.24	•	π .	н	n	ú	
≄ad	н	8.2	0.0012	0.24	•	#	•	u	(1	
anganese		190	0.019	0.59	*	*	•	. •	•	
ckel	н	9.4	0.0044	0.24	•	r	•	u	d	
mvinal		9.12	0.0022	0.59 <b>以</b>	•	•		•	e e	سي
a)lium		0.077	0.0047	0.47 🟒		н			4	
anadium	*	17	0.0032	0,24	4		•		ч	
nc	•	24	0.018	0.82	ŧ		*	•	•	
S10049-04	(G-RS8SED-0-090709)	Soil		Sampled: 09/07/09 14:50						
- lyminym	6020 TMP Dry	7000	0.44	44 π	g/Kg dry	10x	50667	09/22/09 10:39	09/22/09 14:00	
senic	n .	6.4	0.001)	0.29	D	. •	•	*		
ıtimony	•	0.64	0.0097	0,29			•			
riu <b>n</b>		37	0.0022	0,29		н	h	•	a	•
eryllium	•	0.31	0,0010	0,29			•	•	đ	
Idmium		0.0095	0.00069	0.29 1	*			•	•	ą.
rontium		7.8	0.0059	0.29	•	H				
tlado	•	7.6	0.00079	0.29		ŧ	•	*	•	
ррег		21	0.0047	0,29	*		-		•	
ad	•	7.7	0.0015	0,29	*	19	,	н	•	
		200	0.023	0.73	H				и	
			0.0054	0.29						
anganese	•	11								
anganese ckel Jenium		11 Q.H*	0.0028	0,73	h		H	•	в.	لسر
anganese ckel lenium	; ;	O.H		0,73 <b>U</b> L 0,59 <b>U</b> L			H	es	n. H	ئىچ ئىر.
anganese ckel	,		0.0028	0,73 L 0,59 L 0,29	ti *	#	H H	es रः स	E. 19	نب نب

TestAmerica Spokans

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager:

Doug Morell

Report Created: 10/28/09 14:26

# Mercury (CVAA)

TestAmerica Tacoma

Ļ				I estAIII	01704 11	1001114					
Analyte		Method	Result	MDL*	MRL	, Units	Dil	Batch	Prepared	Analyzed	Notes
SS10049-01	(G-RS1SED-4-090709)		So	il _		Samp	led: 09/0	7/09 13:50	•		
Mercury		7471A Dry	0.061	0.0074	0.024	mg/Kg dry .	lx	50676	09/22/09  1:48	09/22/09 14:28	
SS10049-02	(G-RS1SED-0-090709)		So	i1		Samp	led: 09/0	7/09 ,13;55			
Mercury		7471A Dry	ND	0.0087	0.028	mg/Kg dry	1x	50676	09/22/09 11:48	09/22/09  4;32	
SS10049-03	(G-RS8SED-3-090709)		Soi	it		Samp	led: 09/0	7/09 14:45			
Мегсину		7471A Dry	ND .	0.0070	0.022	mg/Kg dry	1x	50676	09/22/09 11:48	09/22/09 14:36	
SSI0049-04	(G-RS8SED-0-090709)		Soi	il		Samp	led: 09/0	7/09 14:50			
Mercury		7471A Dry	0.026	0.0084	0.027	mg/Kg dry	1x	50676	09/22/09 11:48	09/22/09 14:40	
SSI0049-05	(G-RS7SED-0-090709)		Soi	1		Samp	led: 09/0	7/09 15:30	• .		
Mercury		7471A D _D	ND	0.0082	0.026	mழ∕Kழ dry	lx	50676	09/22/09 11:48	09/22/09 14:44	
SS10049-06	(G-RS7SED-4-090709)		Soi	1		Samp	led: 09/0	7/09 15:25			
Mercury		7471A Dry	ND	0.0075	0.024	mg/Kg dry	ix	50676	09/22/09 11:48	09/22/09 14:49	
SSJ0049-07	(G-R\$2SED-3-090709)		Soi	J		Sampi	led: 09/0	7/09 16:15			
Mercury		7471A Dry	ND	0.0077	0.024	mg/Kg dry	lx	50676	09/22/09 11:48	09/22/09 15:01	
SS10049-08	(G-RS2SED-0-090709)		Soi	l		Sampl	led: 09/0	7/89 16:20			
Mercury		7471A Dry	0.021	0.0078	0.025	mg/Kg dry	lx	50676	09/22/09 11:48	09/22/09 15:05	
SS10049-09	(G-EB-090709)		Wa	ter		Sampl	ed: 09/0	7/09 17:00			
Mercury		7470A	ND	0.000047	0.00020	mg/L	lx	50776	09/23/09 15:17	09/23/09 17:35	
SS10049-10	(G-RS5SED-0-090809)		Soil	l _		Sampl	ed: 09/08	8/09 08:30			
Mercury		7471A Dry	ND	0.0080	0.025	mg/Kg dry	lx	50676	09/22/09  1:48	09/22/09 15:10	
SS10049-11	(G-RS5DSED-0-090809)		Soil			Sampi	ed: 09/08	3/09 08:35	•		
Mercury		7471A Dry	ND	0.0081	0.026	. mg/Kg đry	lχ	50676	09/22/09 11:48	09/22/09 15:15	

TestA	merica	Snokane	

The results in this report apply to the samples unalyzed in accordance with the chain of custody ducument. This analytical report must be reproduced in its entirety.





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 (ax: (509) 924.9290

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18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/28/09 14:26

### Mercury (CVAA)

TestAmerica Tacoma

				1 CSIAIN		COMA					
Analyte		Method	Result	MDL*	MRL	Units	Dit	Batch	Prepared	Analyzed	Notes
SS10049-12	(G-RS5SED-4-090809)		Soil			Samp	led: 09/(	08/09 <b>08:4</b> 5			
Mercury		7471A Dry	0.013	Q 0068	0.022	mg/Kg dry	lx	50676	09/22/09 11:48	09/22/09 15:19	4
SS10049-13	(G-RS6SED-0-090809)		Soil			Samp	led: 09/(	8/09 07:40			
Mercury		7471A Dry	0.020	0.0083	0,026	mg/Kg dry	1x	50676	09/22/09 [1:48	09/22/09 14:11	1
SS10049-14	(G-RS6SED-3-090809)		Soil		•	Samp.	led: 09/0	8/09 07:35		·	
Mercury		7471 A Dry	ND	0.0080	0.025	mg/Kg dry	lx	50676	09/22/09 11:48	09/22/09 15:23	
SS10049-15	(G-RS3SED-4-090809)		Soil			Samp	led: 09/0	8/09 11:15		•	
Mercury		7471A Dry	8.0099	0.0071	0.022	mg/Kg dry	lx	\$0676	09/22/09 11:48	09/22/09 15:27	د
SS10049-16	(G-RS3SED-0-090809)		Soil	_		Sampl	led: 09/0	<b>8/09</b> 11:10			
Mercury		7471A Dry	0.0085	0.0079	0.025	mg/Kg dry	lx	50676	09/22/09 11:48	09/22/09 15:32	3
SS10049-17	(G-RS4SED-0-090809)		Soil			Sampl	led: 09/0	8/09 12:20			
Mercury		7471A Dry	ND	0.0071	0.022	mg/Kg dry	ix	50676	09/22/09 11:48	09/22/09 15:37	
SS10049-18	(G-RS4SED-4-090809)		Soil			Sampl	ed: 09/0	8/09 12:25			
Mercury		747 lA Dry	0.020	0.0066	0.021	mg/Kg dry	1x	50676	09/22/09   1:48	09/22/09 15:41	1

TestAmerica Spokene

The results in this report apply to the samples analyzed in accordance with the chain of cosmody document. This analytical report must be reproduced in its authrey.



GOLDER PROJECT #: 073-9	3312.05		SITE: A	very Landir	ng/ POTLA	TCH / Id	laho				
LABORATORY: Test Ameri	ca		SDG: 4	SSIOO	49	<u>-</u>	<del> </del>				
SAMPLES	<del></del>	Collect	<u></u>								
		9/07	* 9/08 17 SOIL/SED.								
See Analyte repo			7 <u>08</u>	<u> </u>			≥EV.				
Sheets * Damm	iary pa	ge-A	ttatch	<u>eq</u>		VATER	·				
. D	ATA ASS	ESSMEN"	r summa	ARY							
REVIEW ITEM	VOA	BNA	Pest / PCB	TPH-	PAHS (SIM)	OTHER	OTHER				
I. Data Completeness			0_		0,	ماد	ر. ر. ر. ر. ر. ر. ر. ر. ر. ر. ر. ر. ر. ر				
2. Preservation, Holding Times	$\times^{0}$	0			~X	<del> UU </del>	Stalis.				
B.GC/MS Tune, Inst. Performance		0	-	-		1	<b>1</b> 8				
. Calibrations	(5)	0			0						
. Surrogates	X3					- "					
. Internal Standards					X 9	· · · · · · · · · · · · · · · · · · ·					
. Lab Blanks, Field Blanks	V (9)	V(5)									
. Lab Duplicates, Field Duplicates					<b>8</b>						
. LCS, Blank Spike, MS/MSD	(A)	<b>(6)</b>	$\prec$	7	8						
O.Compound Identification, TICs				$\rightarrow$	$\sim$						
1. Result Verification, D.Limits				$\rightarrow$							
2. Overall Summary											
D= Data had no problems		Problems	, but do not								
( = Data qualified due to minor pro M = Data qualified due to major pro Z = Data unacceptable [typically dat Comments/Qualified Results:	blems [typio blems [typio a rejected (R <u>(1)</u> VOA 8 out	cally estima cally more to the cally more to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call to the call	ted data (J o han 50% qua lauk o Ld for	r UJ)]. alified (J/UJ). Malysis PCB; As	<u> 200, 102</u>	M129	<del>wali-</del> -				
5/43 Burrogate											
1(41×(4), (4) VOA)				(s have							
Pages (5) SUAR DA				'U'.See							
			nd 10 11								
@ Multiple SUOA CO				م معلود ا	Dee ann	TWISH	seday)				
(MJ) in all samples (						A 1 COLL	re dans				
	·	3		HTIME	/A	ما لي عو					
Staff samples (8) Field Puplic GRSS-				t select	· · · · · · · · · · · · · · · · · · ·	2(860+	1978).				
Validated by:	m×	tof!	.ما	· · · · · · · · · · · · · · · · · · ·		Nov.					
leviewed by:  (9) Multiple Is gut	'	\ <b>\</b> //	1		Date:		•				
	·	<del>' ' -</del>					<del></del>				

## ORGANIC ANALYTE - Tier III & IV Data Validation Summary Checklist Acceptable: YE! 1. Date Package Completeness (Check if present)..... Case narrative **V**Blank Results √Chain of Custody Acceptable Surrogate Results sample Results Internal Standards x Absent ✓ Detection Limits o Not required for GC/MS Tuning Preparation Logs data package Initial Calibration ✓ Analysis Run Logs requested. Continuing Calib. Raw Data Other Comments/Qualified Results: Error on Chain of euctody cites SVOA analysis for sample EQUIA BLONK (TRIP), NO GUAL Holding Times (Check all that apply)...... $\underline{\mathcal{V}}$ Unpreserved VOA analyzed in 7 days from collection; Preserved 14 days from collection PNA samples extracted within 7 days (14 day soil) of collection ◆BNA extracts analyzed within 40 days of collection Pest/PCBs samples extracted within 7 days (14 day soil) of collection (_Pest/PCBs extracts analyzed within 40 days of collection — 46 ഉപ്പ —No Qual . Qualify as estimated (J/UJ) all results analyzed past hold time limits, but within 2X of the limit. Outside the 2X limit, qualify X_Pest/PCBs extracts analyzed within 40 days of collection detects as (J) and non-detects as (UR). Comments/Qualified Results excen

Res Chk Mix, MidPoint AB <60%, (J for detects, UR other)

PEM resolution <90% adj pks, (J for detects, UR other) DDT, Endrin breakdown >20%, (J for DDD,DDT, Endrin, GC/MS Tuning out of control limits, (qualify R/UR) Endrin Aldehyde, Endrin Ketone, or NJ/R) Res Check Mix, MidPoint AB, TCMX, DCBP within RT windows from ICAL AB mixture (Fix or R/UR) Comments/Qualified-Results:

3. GC Instrument Tune, Performance Check .....

C/MS Tuning performed

VGC/MS Tuning within control limits

Acceptable:	Yes	, NO	
4. Initial & Continuing Calibration (Check all that apply)	<u>H</u>	X	
GC/MS Data:ICal RRFs>0.05 all cmpnds (If no,J/UR), [>0.01 for Poor Performers] VOA, SVOAICal RSD of RRF <30% all cmpnds (If no,J detects) [<50% for Poor Performers] VOICal RSD of RRF<20.5% all cmpnds (If no,J detects) [<50% or *30% for Poor Perfo	A rmerel SV	1-6-09	
Note: *Applies to 2,4-DNT, 2-Nitrophenol, and 2,4-DMP only [SVOA]. Continue Cal. +/- 30% Diff of RRF (If no, J/UJ) [+/- 50% Diff, Poor Performers] VOA		OA.	
Continue Cal. %D <25% all cmpnds (If no,J/UJ) , VOA, SVOA  Pesticide/PCB:RSD<10% for performance checks (If no J detects)Stnds analyzed prior to analysis, & at proper frequency			
Continuing Cal-% Diff. <15% for quant. (<20% for confirm column)	<i>7.</i> I		
174-Dx - Sept. 11-12 WBE @ 0.998=12, CCAL &D. Front Rec	or Colu	mns)	
PAH-Tune 9/8 9/21 CCAL & Rec. PCB - ICAL 9/16,	K = (	1.998 for	1/9
A-1016 A-1260 CCAL 90-1108 (Front Rear). SUGA - ICAL	- 6153 1417	D COAL R	<del>1) ~ .//</del>
9/2 - TUNE 719 9/22 CCAL 9/8 Pentacht Menor & Outof	- DIMI	te Assoc d	etect
	1/4 %	RSD - COAL 9	121:
tetraclethous 1-Noquality 1/22: No TAL out 19/25			
5. Surrogates (Check all that apply)		$\bigcirc$	
Surrogates analyzed Recoveries within Method Control (lab) limits (VOA: 80 – 120%, SVOA: Lab Established, PEST: 30 Recoveries above Method Control limits (J detects only)	)-150%)		
Recoveries below Method Control limits but>20% (J/UJ)Recoveries below 20%, 10% for PEST) Comments/Qualified Results	Ø; *	for Trifluon	>-
Eluene & for Bromofluroberzt: Assoc detents (I)	<u> 200</u>	A-Out of Li	~
#031,041,051,081; 11300 results las Jingle Surrogat	es on	y-NOQua	ルト
VSVOC-PAHX #15 Source diluted out for #15-18N	<u> </u>	ALIE	
PCB #9" TPH-Dx-V		<del></del>	
	<del></del>	<del></del>	·
6. Internal Standards Performance	1		
✓Internal standards added to all QC and samplesInternal standards areas within Control Limits* [+/-40% VOA, +/-50% SVOA]*  *Associated with 12 Hour CCV Stnd.	M 11-	-06-09	
Internal standards out of Control limits but >10% (J/ <del>UJ)</del> Internal standards zero or <10% of Control limits (J/UR)Internal standards RTs within +/-20 sec window (If no, J/UJ)	_	•	
Comments/Qualified Results: VOA'S SUOA' = PAHS	Ben	zo(4)A.	
KOP, BenzoldHun, Benzo (ghi), Benzo(K), Chryse	ve D	ibenzo(ah)	•
Ideno(123), and Prene - Samples 01, 07, 14	15,16	+17.out	
ort limit Low-Associatects quality (J) Non-de	tect	5(R).	

Accep	otable:	Yes	NO
7. Laboratory Blanks, Field Blanks (Check all that apply)			
Method Blanks, Prep.Blanks analyzed after Cal Stnds and every 12 hours  Method Blnk Common Lab Contaminants, list: MeCl2, Cyclohex (<10X RLs); Acetone, Other Contaminants: Qualify results (< 5X RL) according to Chart below.	2-butanone	e (<2X RL:	s); Chart
Instrument blanks after all high level samples, All cmpnds must be <rl are="" blank="" blanks="" equip="" fiel="" g-eb-090709;="" riank<="" td="" trip=""><td>2#60</td><td>9+19</td><td>respect</td></rl>	2#60	9+19	respect
Comments/Qualified Results: BLANK MDL   Result	PQL	SAMPLE Result	
Man #9 Defeate Not Analys	1.0	8.0	1.0 U
#10 N-loute 140 00 135 Talk B 0.3 1.5	1.0	1.8	1.8 J
n-Butilbenz 124 Try Cl Bonz 123 Tab. 0.3 0.3 0	1.0 1.0	1.8 0.85 1.8	1.8 J 0.85 J 1.8
SUOA-#9 Northal Acenath above RL.			
& VOA Somples: 9/2, Detects qualifile @ Rifor	Benz	.7610	XVI ChliBenz
124 TCB, 123,7CB, mp Ky ( FNapHalone. 9/22 detects		•	<i>,</i> , ,
& SUDA: 9/5 prep detects qualif. " U' @ RL for 1	_	•	- I
PCB: 914prep-NDV TPH-Dx-NDV PAH-NDV		7-1	
			,
8. Duplicate, Field Duplicates (Check all that apply)			
Duplicate RPD ≤20% for waters (≤35% for soils) for results >6X CRDLDuplicate range is within ±CRDL (± 2X CRDL for soils) for results <5X CRDLField duplicate RPD ≤20% (≤35% for soils) Comments/Qualified Results TPL-Dr + PCB WS/ASD RPI	DI P	AH-]	dour Dyrenet
emms/msp-NoQual.			
·			
			<u> </u>
Sample GRS5-SED-O & GRS5D-SED assumed	1 F.Da	Alica	RPD calc.
UDA SUDA-Phonomethrene Fluorauthene	#Pur	enp e	exceed precision
timits NOQUALIF APPLIED FADILISON ON	( 'D	CB-	AIND
BY TOH-Dx - All NDV.			
9. MS/MSD, Lab Control Samples, Blank Spikes (Check all tha	it apply)		
LCS %R 50-120% W/in Labestab limits LCS %R 50-79% or > 120%, results >IDL estimated (J) YLCS %R 50-79% and results <idl %r="" (r="" (uj)="" <50%="" all="" and="" estimated="" lcs="" rejected="" results="" td="" ur)<=""><td></td><td></td><td></td></idl>			
Comments/Qualified Results: TPH-Dx (Smpl01) 769	MS, 8	32% L	as.
103-605 93 \$ 105 MB/MSD 92/863 PAH-	- ros	M	S/MSDV.
SUON - Multiple TAL do not meet Lab estab. limi	to -V	10 Q1	ralif Advisory.
LCS-13DCB, Z-Nitro Phon, Hexa Cl Pentadieno, Z+DEN phond 2	4 <del>0:01</del>	-Zmet	hathante -Assoc. (18)
vesults qualif. (T/us).			

Accept	able:	Yes	ИО
10.Compound Identification, TICs	•••••	B	
Comments/Qualified Results:			· · · · · · · · · · · · · · · · · · ·
			····
<u> </u>			
	<u> </u>		
		·	
· · · · · · · · · · · · · · · · · · ·	<del></del>		<del></del>
1. Result Verification, Detection Limits	•	<u>d</u>	
_Ail results supported in raw data _Detection Limits appropriate to meet project needs (Review Work Plan, QAPP)			
Comments/Qualified Results: SUDA \$ SUDC/PAH - BAP S	ckee	r level	noti
Comments/Qualified Results: SUDA \$ SUDC/PAH - BAP S	cree	r level elow l	RL Ad
	cree Lts lo	r level elow l	RLAD
Comments/Qualified Results: <u>SUDA &amp; SUDC/PAH - BOD</u> S PLAD reported RL, MDL Mets For BEDP all resulted and the subsection for Lab RL requirement.	cree Lts lo	r level	l not
Comments/Qualified Results: SUDA \$ SUDC/PAH - BAP S	cree	elow	l not i
Comments/Qualified Results. <u>SUDA &amp; SUDC/PAH - BOPS</u> PLAD reported RL; MDL <del>Meets for</del> BOP all resultendition for Lab RL requirement.	cree	r leve	l not 1 ≥L, Ad
Comments/Qualified Results. <u>SUDA &amp; SUDC/PAH - BOPS</u> PLAD reported RL; MDL <del>Meets for</del> BOP all resultendition for Lab RL requirement.	cree	elow (	l not 1
Comments/Qualified Results: SUDA & SUDC/PAH - BOD S PLAD reported RL, MDL meets for BOD all resu Condition for Lab RL requirement.	cree	elow (	l not 1
Comments/Qualified Results: SUDA & SUDC/PAH - BOD S PLAD reported RL, MDL meets for BOD all resu Condition for Lab RL requirement.	cree	elow I	l not 1
Comments/Qualified Results: SUDA & SUDC/PAH - BOD S PLAD reported RL, MDL Mets For BOD all resu Condition for Lab RL requirement:	cree	elow I	RL Ad
Comments/Qualified Results: SUDA & SUDC/PAH - BOP S PLAD reported RL, MDL Wets for BOP all resultands for Lab RL requirement.	cree	elow I	RL Ad
Comments/Qualified Results: SUDA & SUDC/PAH - BOP S PLAD reported RL, MDL Wets for BOP all resultands for Lab RL requirement.	cree	elow I	RL Ad
Comments/Qualified Results: SUDA & SUDC/PAH - BOP S PLAD reported RL, MDL Wets for BOP all resultands for Lab RL requirement.	cree	elow I	RL Ad
Comments/Qualified Results: SUDA & SUDC/PAH - BOP S PLAD reported RL, MDL Wets for BOP all resultands for Lab RL requirement.	cree	elow I	RL Ad
Comments/Qualified Results: SUDA & SUDC/PAH - BOP S PLAD reported RL, MDL Wets for BOP all resultands for Lab RL requirement.	cree	elow I	RL Ad



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 14:26

### Polychlorinated Biphenyls by EPA Method 8082

				TestAme	гіса Ѕро	kane					
Analyte		Method	Result 🕏	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SS10049-01	(G-RS1SED-4-090709)		Soil		Sampled: 09/07/09 13			07/09 13:50			
PCB-1016		EPA 8082	ND A	<b>/</b>	9.69	ug/kg dry	lx	9090148	09/22/09 15:21	09/23/09 09:41	_
PCB-1221		OUALIFICATION	ND (		9.69	a		*	н	09/23/09 09:18	
PCB-1232	, L	10. TOATO	N _{ND}	-	9,69	*	#	•		•	
PCB-1242	F	A. IALIFIC.	ND {	_	9,69	•	**	•	•	•	
PCB-1248	(		ND }	_	9,69	•		•	W	u	
CB-1254					9,69				h		
CB-1260		12-16-09	10.4	_	9.69	Ħ		•	4	09/23/09 09:41	
Surrogate(s)	: TCX	-\-	6	7.6%		27.9	- 154 %	н		п	
	Decachlorobiphenyl		5	7.5%		35	- 157%	n		N	
SI0049-02	(G-RS1SED-0-090709)		Soil			Sam	pled: 09/	07/09 13:55			
CB-1016		EPA 8082	ND j	<b>%</b> —	9,68	ug/kg dry	, lx	9090148	09/22/09 [5:21	09/23/09 10:11	
CB-1221		•	ND )		9.68	•	•		t	09/23/09 09:41	
CB-1232	′,	/v. C	ND }	<del></del>	9.68	E	-	υ	#1	H	
CB-1242	1	Qualit.	ND		9.68	*	π	ч	n	н	
CB-1248	. <b>C</b>	Jun.	ND	_	9.68	,	11	•		*	
CB-1254	•		ND		9.68		•	-	•	•	
CB-1260		" (I") A	ND 🍄	-	9,68			•	*	09/23/09 10:11	
Surrogate(s)	: TCX	18-16-6	5	.9%		27.9	- 154 %	u ·			_
	Decachlorobiphenyl	(0	5	.4%		35	- 157%	<b>u</b> .	•	•	
S10049-03	(G-RS8SED-3-090709)		Soil			Samj	pled: 09/(	07/09 14:45			
CB-1016		EPA 8082	ND M	<b>/</b>	9.51	ug/kg dry	lx	909014B	09/22/09 15:21	09/23/09 10:33	
CB-1221		•	ND (	_	9.51		B.	•	. "	09/23/09 10:11	
CB-1232		NO -	ND (		9.51	•	•	•		ч .	
CB-1242		100'C	ND }		9.51	•	H	u	TI .	•	
CB-1248		No Qualif.	ND '	· <del></del>	9.51	•		п	11	•	
CB-1254			ND		9.51	•	b	•	•		

11-06-09

8.35%

27.9 - 154 %

35 - 157 %

TestAmerica Spokane

PCB-1260

Surrogate(s):

TCX

Decachlorobiphenyl

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

09/23/09 10:33

z





11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924.9290

Golder Associates, Inc. 18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Name: Project Number: Avery Landing

Project Number: 073-93312-03 Project Manager: Doug Moreli Report Created: 10/28/09 14:26

### Polychlorinated Biphenyls by EPA Method 8082

	<del></del>		Te	stAmerica S	pokane				<u> </u>	
Analyte		Method	Result 🗷 t	MDL* M	L Units	Dil	Batch	Prepared	Analyzed	Notes
SS10049-04	(G-RS8SED-0-09070	9)	Soil		Sar	npled: 09/	/07/09 14:50			
PCB-1016		EPA 8082	ND MA	9	99 ug/kg dry	1 _K	9090148	09/22/09 15:21	09/23/09 10:56	
PCB-1221		\ - '	ND ]	9.5	99 •	41	п	Ħ	09/23/09 10:33	
PCB-1232	1	NO. ALIF.	ND )	9,5	99 *		4	e		
PCB-1242	•	ALALII	ND (	9,9	99 "	**	w	*	M	
PCB-1248		U 2	ND (	<b>— 9.</b> 9	99 "		н	•		
PCB-1254		100	ND (	9.9	9 "		*		**	
PCB-1260	•	12-16-09	ND 🗸	<b>—</b> 9.9	7 99	н	*	h	09/23/09 10:56	
Surrogate(	s): TCX	12-1	35.8	%		9 - 154 %	ri .		п	<del></del>
	Decachiorobiphenyl		41.0	%	3	5 - 157%	п		•	
SSI0049-05 (G-RS7SED-0-090709)		Soil		San	npled: 09/4	07/09 15:30		_		
PCB-1016		EPA 8082	ND MES	9.5	4 ug/kg dry	1x	9090148	09/22/09 15:21	09/23/09 11:19	
PCB-1221		\ <u>:</u>	ND /	9.5	54 <b>*</b>	•	•	*	09/23/09 10:56	
PCB-1232		NO. E	ND (	9,5	i4 "		*1	#	W	
PCB-1242		DUALIF.	ND (	9.5	4 "		. 4	Ħ	₩	
PCB-1248	'	øKPX −	ND	9.5	i4 <b>"</b>		•	•		
PCB-1254		Aro R	ND )	9.5	i4 <b>"</b>	•		-	*	
PCB-1260		12-16-09	ND 🌴	9.5	4 "	ĸ	#	•	09/23/09 11:19	
Surrogate(	s): TCX	15	41.3	%	27.	9 - 154 %	11		n	
	Decachlorobiphenyl		37.7	%	3.	5 <b>- 157 %</b>	11		9 N	
SS10049-06	(G-RS7SED-4-090709	P)	Soil		San	npled: 09/0	07/09 15:25			
PCB-1016		EPA 8082	ND 443	9.5	4 ug/kg dry	lx	9090148	09/22/09 15:21	09/23/09 11:42	· · · ·
PCB-1221		,"	ND_(	<b>— 9.9</b>	4 7		**	•	09/23/09 11:19	
PCB-1232		$\mathcal{M}$	ND )	9,9	14 "		**	•	•	
CB-1242		Gualit.	ND )	9,9	4 "	*	a	7	H	
CB-1248		C) VID'	NID	9.9	4 ."	*	h			
CB-1254	•		ND }	9.9	4 "		*		н "	
		/AV() _								

TO 11-06-09

32.5%

58.2%

27.9 - 154 %

35 - 157 %

TestAmerica Spokane

PCB-1260

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager

(Cardi

Surrogate(s): TCX

Decachlorobiphenyl



09/23/09 11:42



SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name: Project Number: **Avery Landing** 

Project Manager:

073-93312-03 Doug Morell

Report Created:

10/28/09 14:26

### Polychlorinated Biphenyls by EPA Method 8082

			TestAme	erica Spo	kane					
Analyte	Met	hod Result (	MDL*	MRL	Units	Dil	Batch	Propared	Analyzed	Notes
SSI0049-07	(G-RS2SED-3-090709)	So	il		Samj	oled: 09/6	07/09 16:15			·
PCB-1016	EPA 808	2 ND L	18° —	9.58	ng/kg dry	lx	9090148	09/22/09 15:21	09/23/09 12:04	<del>_</del>
PCB-1221	No Quali	( ND	1 —	9.58		W	•		09/23/09 11:42	
PCB-1232	1 (Jua)	Tr ND	-	9,58	ĸ			•	•	
CB-1242	No do.	ND ND	1 —	9,58			•	*	*	
CB-1248		ND	-	9.58	•	n	•	ke	н	
CB-1254	- ( · · · · ·	ND	}. —	9.58		•	H	N	# .	
CB-1260	*	ND *	V —	9.58	•	h	*	п	09/23/09 12:04	
Surrogate(	s): TCX	,	39.3%		27.9	- 154 %	ıı		N	
	Decachlorobipheny!		34.2%		35.	- 157%	at .		н	Z
SI0049-08	(G-RS2SED-0-090709)	Se	il	•	Samp	oled: 09/0	7/09 16:20			
CB-1016	EPA 808	2 ND <b>J.</b>	KS —	9.76	ug/kg dry	ĺχ	9090148	09/22/09 15:21	09/23/09 12:27	
CB-1221	No Qua	ND ND	<b>!</b> —	9.76	٠		н		09/23/09 12:04	
CB-1232	V/O (ART	JCJ . ND	<i>i</i> —	9.76	•	н		u	4	
CB-1242	اپن – ۱۵	ND ND	<b>\</b> —	9.76	•	*		n	н	
CB-1248	10 12-1	ND ND		9.76	*		•	*	*	
CB-1254	~(r):	ND	l. —	9.76	•	H	•	•	11	
CB-1260	. *	ND	<b>/</b> —	9.76	•	#			09/23/09 12:27	
Surrogate(s	): TCX		17.5%		27.9	- 154 %	"	<del></del>	"	z
	Decachlorobiphenyl		26.6%		<i>35</i> -	157%	II.			Z
SI0049-10	(G-RS5SED-0-090809)	So	iŧ		Samp	led: 09/0	8/09 08:30			
CB-1016	EPA 808	2 ND		9.96	ug/kg dry	1x	909014B	09/22/09 15:21	09/24/09 13:05	
CB-1221	4	ND		9.96	'm	•	•	*	**	
CB-1232	•	ND	_	9.96		ь		4		
CB-1242	•	ND	_	9.96	•	•	н	•		
CB-1248	•	ND		9.96	×	*	н	*	•	
CB-1254	•	ND	_	9,96		#	•	ı,	•	
CB-1260	n	ND	-	9.96	н	=	*	W	п	
Surrogate(s	): TCX		27.5%		27.9	154%	п			Z
	Decachlorobiphenyl		35.8%		<i>35</i> -	157%	"			

- TAS 11-06-09

TestAmerica Spokane

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SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager:

073-93312-03 Doug More!!

· Report Created:

10/28/09 14:26

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
SS10049-11	(G-RS5DSED-0-090809	)	Soi	il		Samp	pled: 09/	08/09 08:35			
PCB-1016		EPA 8082	ND		9.99	ug∕kg dry	lx	9090148	09/22/09 15:21	09/24/09 13;28	
PCB-1221		U	NID		9,99	n	•	•	<b>H</b>	W	
PCB-1232		ч	ND		9.99	•	•	η	la la	н	
PCB-1242			ND		9.99	•	•	•	**	P.	
PCB-1248			ND		9.99	•	•	u	п		
PCB-1254		<b>M</b>	ND	_	9,99	71	•	P	*	Ħ	
PCB-1260	. '	•	ND		9,99	W	•	II	•	h	
Surrogate(s	): TCX			65.1%		27.9	- 154%	ti		"	
	Decachlorobiphenyl			64.6%		35 -	157%	*		"	
SSI0049-12	(G-RS5SED-4-090809)		Soi	1		Samp	oled: 09/6	08/09 08:45			
PCB-1016		EPA 8082	ND		9.95	ug/kg dry	lx	9090148	09/22/09 15:21	09/24/09 13:50	
PCB-1221		н	ND		9.95	н	b		•	n	
PCB-1232		H	ND		9.95	•			*	w	
CB-1242		91	ND		9.95	•	*		•	*	
PCB-1248		•	ND		9.95	*	•	•	•	•	
CB-1254		h	ND	<del></del> ·	9.95	•		4	•	•	
CB-1260		R	ND	<del>.</del>	9,95		*	<b>N</b>	я	н	
Surrogate(s	): TCX			66.8%		27.9 -	- 154 %	ρ .		"	
	Decachlorobiphenyl			64.7%		35 -	157%	r		н	
SI0049-13	(G-RS6SED-0-090809)		Soi	I		Samp	led: 09/6	8/09 07:40			
CB-1016	<u> </u>	EPA 8082	ND		9.99	ug/kg dry	1x	9090148	09/22/09 15:21	09/24/09 14:13	
PCB-1221		•	ND	_	9.99	*	•	7		U .	
PCB-1232			ND	_	9.99	R		#		*	
CB-1242			ND	_	9.99	¥		и		•	
CB-1248		•	ND		9.99	*	· #	•	•	•	
CB-1254			ND	•	9,99		•	•	•		
CB-1260		a	ND	<del></del>	9.99	-	•	н	•	•	
Surrogate(s)	: TCX	<del></del>		101%		27.9 -	154 %	"	·-··	н	
	Decachlorobiphenyl			114%		35 -	157%	Ħ		μ	

Test/	\menica	Spok	anc
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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924.9200 fax; (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Name: Project Number: Avery Landing

Project Manager:

073-93312-03 Doug Morell Report Created: 10/28/09 14:26

### Polychlorinated Biphenyls by EPA Method 8082

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-14	(G-RS6SED-3-090809)		So	n		Samp	oled: 09/	08/09 07:35	,		
PCB-1016		EPA 8082	ND		9.79	ug/kg dry	1x	9090148	09/22/09 15:21	09/24/09 14:35	
PCB-1221		H	ND	. —	9.79	•		#	н	•	
PCB-1232		•	ND		9.79	•	•		n .	•	
PCB-1242		<b>H</b>	ND		9.79	•			•	•	
PCB-1248		В	ND		9.79			•	•	•	
PCB-1254		*	ND		9.79	•	•	•	•	•	·
CB-1260		•	ND	_	9.79	•	*	•	•	•	
Surrogate(s).	TCX			75.6%		27.9	- 154%	n.		W	
	Decachlorobiphenyl			68.9%		35	- 157%	п		N.	
SI0049-15	(G-RS3SED-4-090809)	,	Soi	ı ·		Samp	oled: 09/0	08/09 11:15			
CB-1016	<u>`</u>	EPA 8082	ND		9.98	ng/kg dry	lх	9090148	09/22/09 15:21	09/24/09 14:58	
CB-1221		•	ND		9,98	н	11	7		#	
CB-1232		•	ND		9.98	•	•	•	•	•	
CB-1242		•	ND	_	9,98		*	•	•		
CB-1248		•	ND		9.98		H	*	•	•	
CB-1254		• •	ND	-	9.98	•	U	4	•		
CB-1260		ti	ND		9,98		4	H	<b></b>		
Surrogate(s):	TCX			104%		27.9	- 154 %	и		н	
	Decachlorobiphenyl			55.4%		35 -	- 157 %	<i>a</i>		n	
S10049-16	(G-RS3SED-0-090809)	<u>.</u>	Soi	l		Samp	ied: 09/0	8/09 11:10			
CB-1016		EPA 8082	ND		9,62	ug/kg dry	lх	9090148	09/22/09 15:21	09/24/09 15:21	
CB-1221		•	ND		9.62	•	٠.	•	•	•	
CB-1232		н	ND		9.62	n			π	<b>H</b>	
CB-1242		4	ND		9.62		•		u u		
CB-1248		•	ND		9.62	•	*	•			
CB-1254			ND		9,62	•	*	*		T T	
CB-1260		н	ND		9,62	-	*	•	•	16	
Surrogate(s):	TCX			109%	•	27.9 -	- 154 %	*		"	·
,	Decachlorobiphenyl			82.0%		75.	157 %			*	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created: 10/28/09 14:26

Polychlorinated Biphenyls by EPA Method 8082

Analyte		Method	Result	MDL*	MRL	Units	Dit	Batch	Prepared	Analyzed	Notes
SSI0049-17	(G-RS4SED-0-090809)		So	il	·	Samp	led: 09/	08/09 12:20			Ć
PCB-1016	<u>-</u>	EPA 8082	ND	-	9.66	υg∕kg dry	1x	9090148	09/22/09 15:21	09/24/09 17:37	
PCB-1221	•	u	ND		9.66	•	•			×	
PCB-1232			ND	_	9.66	•	*		•	•	
PCB-1242		н	ND		9.66	•			•	#	
PCB-1248	•	**	ND		9.66				π	•	
PCB-1254			ND		9.66	b	•		•	•	
PCB-1260			. ND		9.66	#	•	*	•	•	
Surrogate(	s): TCX			103%		27.9	154 %	"		ır	
	Decachlorobiphenyl			11.2%		35 -	157%	"		" <b>Z</b>	
SSI0049-18	(G-R\$4SED-4-090809)		Soi	1		Samp	led: 09/	08/09 12:25			
PCB-1016		EPA 8082	ND		9,55	ug/kg dry	Ļх	9090148	09/22/09 15:21	09/24/09 15:43	•
PCB-1221		ж	ND		9.55				<b>4</b>	•	
PCB-1232	i		ND	_	9,55		ų	*	**	•	
PCB-1242	•	W	ND		9.55		U		-	4	•
PCB-1248			ND		9.55	•		н	н	•	
PCB-1254	•	4	ND	_	9.55	•		n	•	a	
PCB-1260		•	ND		9.55	*	•	•	•	•	
Surrogate(s	): TCX			67.6%		27.9 -	154%	'n		л	
Б 1.	Decachlorobiphenyl			55.6%			157 %			H	

TestAmerica Spokane

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11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03

Doug Morell

Report Created:

10/28/09 14:26

### Polychlorinated Biphenyls (PCBs) by Gas Chromatogr

TestAmerica Tacoma

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-09 (	G-EB-090709)		W	ater		Sam	pled: 09/	07/09 17:00			
PCB-1016		8082 STD	ND	0.0042	0.047	ug/L	łх	<b>5285</b> 5	09/14/09 08:57	10/23/09 14:13	
PCB-1221		н	ND	0.0058	0.047	*	•	•			
PCB-1232			ND	0.0039	0.047	•	-	•		•	
PCB-1242		•	ND	0.0039	0.047		*	и		•	
PCB-1248			ND	0.0067	0.047		•	•	n	•	
PCB-1254		B	ND	0.0042	0.047		•	41	71	ø	
PCB-1260		•	ИD	0.0037	0.047	•			W	•	
Surrogate(s):	Tetrachloro-m-xylene			86%		60	- 150 %	n		u u	
	DCB Decachlorobiphenyl			58%		40	- 135 %	H	•		

M 11-06-09

TestAmerica Spokane

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Randee Decker, Project Manager

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Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number:

073-93312-03

Project Manager:

Doug Morell

Report Created:

10/28/09 14:26

### Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRLG	nits	Dál	Batch	Prepared	Analyzed	Notes
SSI0049-09 (G-EB-090709)		Wa	ter		Sampleo	l: 09/0	7/09 17:00			
Acenaphthylene	8270C STD	0.0013	0.0010	0.0094	ug/L	lx	50156	09/14/09 09:08	09/18/09 09;28	,J
Naphthalene		0.014	0.0034	0.0094	U	•	n	•	н	
2-Methylnaphthalene	•	0.0079	0.0028	0.012	<b>*</b> ·	w"	*		n n	J
Acenaphthene	•	0.018	0.00094	0,0094			•		*	B
I-Methylnaphthalene	11	_0.0048	0.0011	0.0094		*	•	•	•	المهلير
Fluorene		0.0026	0.0011	0,0094 ()	H	b	n	**	•	<u> ال</u> مبلغر
Chrysene		ND	0.0020	0.0094	7	ij	*	•		
Phenanthrene	•	0.0034	0.0010	0,0094	4			. *	•	J
Anthracene	•	_0.0012	0.00075	0.0094	ч	H	H	11	n n	السلاس
Benzo[b]fluoranthene	ь	ND	0.0025	0.0094		'n			н	
Benzo[k]fluoranthene	•	ND	0.0023	0.0094	•	•	*	*		
Fluoranthene	и	0.0026	0.0015	0,0094			•	•	•	اللياو
Benzo[a] pyrene	н	ND	0.0018	0.019	*	•	•		Ħ	
Pyrene .	e e	ND	0.0016	0.0094	•		H	•	#	
Benzo[a]anthracens	•	ND	0.0023	0,0094				w .	ft	
Indeno[1,2,3-cd]pyrene		ND	0.0019	0,0094	b		11	•	п	
Dibenz(a,h)anthracene		ND	0.0017	0.0094	к	*	**		*	
Benzo[g,h,i]perylene	•	ND	0.0019	0.0094	•	•	77	*	•	
Surrogate(s): 2-Fluorobiphenyl	,		71%		50 - 110	0 %	n		и	
Terphenyl-d] 4			89%		50 - 13:	5 %	n		D .	
Nitrobenzene-d5			80%		40 - 110	7%	4	•	"	

TestAmerica Spokane

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SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number: Project Manager: 073-93312-03 Doug Morell Report Created;

10/28/09 14:26

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	·	Method	Result (	MIDI.*	MRL	Units	Dil	Batch	Prepared	Analyzed	Not	es
SS1 <b>0</b> 049-01	(G-RS1SED-4-090709)		Soil			Samp	led: 09/0	7/09 13:50				
I-Methylnaptha	lene	EPA 8270 mod,	מא		0,00850	mg/kg dry	2x	9090116	09/17/09 12:06	09/21/09 22:01		
2-Methylnaphth	alene	•	ND	_	0.00850		*	٠	u	•		
Acenaphthene		W	ND	_	0.00850		Ħ	٠	•	b		
Acenaphthylene	•	*	ND		0,00850	н	н	D	•	ч		
Anthracene		H	ND	_	0,00850	n	=	n	*	u		
Benzo (a) anthr	acene		ND $old R$	—	0.00850	•	#	*	+	4	101	
Benzo (a) pyren	ė	•	ND 12	_	0,00850	-	•	n	ь	*	101	
Benzo (b) fluor	anthene	н	0.0147		0.00850	•	•	•	-	. •		10
Benzo (ghi) per	ylene	* •	0.0193	-	0.00850	n	и	•	h	Ħ		)0
Benzo (k) fluori	anthene	•	ND <b>K</b>		0,00850	×	4		a	н	101	
Chrysene		н	0.00907	—	0.00850	•	я	•	*	11		10
Dibenzo (a,k) a	nthracene	4	0.00907 J		0,00850	*		,		н		10
Fluoranthene			ND		0,00850	•	n	•	•	•		
Fluorene		**	ND		0.00850	•		•				
Indeno (1,2,3-c	d) pyrene-	H	0.0113 😙		0.00850	0	•	*	•	•		10
Naphthalene		ii ,	ND	-	0.00850	-	*	•	•	u		
Phenanthrene		н	ND		0.00850	•	•	a.	*	•		
Pyrene		•	0.0204 J	-	0.00850	*	•	•	π	, н		
Surrogate	s): Nitrobenzene-d5		29	.2%		38,8	- 139 %	17			Z3	
	2-FBP			.6%			- 132 %	p		u	Z3	
	p-Terphenyl-d14	·	83	.2%		31.7	- 179 %			ar .	101	
SS10049-02	(G-RS1SED-0-090709)	), .	Soil			Samp	pled: 09/0	7/09 13:55				
I-Methylnaptha	dene	EPA 8270 mod.	מא	_	0.00494	mg/kg dry	1x	9090116	09/17/09 12:06	09/18/09 22:50		
2-Methylnaphth	nalene	•.	ND		0.00494		*	•	•	v		
Acenaphthene		Þ	ND		0.00494		*	•	•	r,		
Acenaphthylene	:	•	ND		0.00494	•	+	٠	7	н		
Anthracene		•	ND		0.00494	•	•	•	,			
Benzo (a) anthr	acene	ħ	ND		0.00494			*	•	4		
Benzo (a) pyrer	ne	•	ND	_	0,00494	•	•	•	•	**		
Benzo (b) fluor	anthene ,		0.0155		0,00494		P		w	n		
Benzo (ghi) per	rylene	ь	0.00672	انکم	0,00494		R	•		н		
Benzo (k) fluor	enthene		ND 7	18.	0,00494	*	*	•	*	н		
Chrysene			0.00941	_	0,00494	•	*	**		и		
Dibenzo (a,h) a	nthracene		ND		0.00494	•	11	P	*	"		
Fluoranthene		н	0.00874	_	0.00494	•		•	•	•		
Fluorene		•	ND		0.00494	•	•	•	*	u	•	
	d) pyrene		ND		0.00494							

TestAmerica Spokane

No Quals,

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Randee Decker, Project Manager

Page 12 of 168



11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number.

073-93312-03

Project Manager:

Doug Morell

Report Created: 10/28/09 14:26

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-02 (G-R	S1SED-0-090709)	Soi	}		Samp	led: 09/	07/09·13:55			
Naphthalene	EPA 8270 mod.	סא	_	0.00494	mg/kg dry	1 <b>x</b>	9090116	09/17/09 12:06	09/18/09 22:50	
Phenanthrene		ND		0.00494	•	*		•		
Pyrene	<b>H</b>	0.00874		0,00494	٠	•	al	Ð	×	
Surrogate(s): Nit	robenzene-d5		92.2%		38.8 -	139 %	Ħ		11	
2-5	TBP		100%			132 %	.#		u	
p-1	Terphenyl-d14	*	89.8%		31.7 -	179%	n		ar	
SSI0049-03 (G-R	S8SED-3-090709)	So			Samp	led: 09/	07/09 14:45			
1-Methylnapthalene	EPA 8270 mod	ОИ		0,00417	mg/kg dry	lж	9090116	09/17/09 12:06	09/18/09 21:24	
2-Methylnaphthalene	. "	ND		0,00417	•	*	•	•	*	
Accnaphthene	н	ND		0.00417		•	•	•	•	
Acenaphthylene	*	ND	<del></del>	0,00417	•	*	*	в	v	
Anthracene	114	ИD		0,00417	•	•			н	
Benzo (a) anthracene	н	ND		0.00417	Þ		•		•	
Benzo (a) pyrene		ND		0.00417	•	•	*	•	*	
Beazo (b) fluoranthene	н	ND		0.00417		*	н .		ıı	
Benzo (ghi) perylene	ū	ND		0.00417		•	"		4	
Benzo (k) fluoranthene	π ,	ND		0,00417		•	*	-	*	-
Chrysene	l <del>e</del>	ND	_	0.00417	•	•	۳	•	•	
Dibenzo (a,h) anthracens	<b>"</b>	ND		0.00417		*	H	•	<b>9</b> 1	
Fluoranthene	μ	ND		0,00417	۳ ,	•	•	,	n	
Fluorene	11	ND	_	0.00417	•	•	•	77	•	
Indeno (1,2,3-cd) pyrens	* "	ND	. —	5.00417	n	**	*	•	ır	
Naphthalene	. н	Ν̈́D	_	0.00417	N	•	•	,	•	
Phenanthrene	п	ND	_	0.00417	*		•	*	. •	
Pyrene		ND		0.00417						
• ,,,	robenzene-di		78,6%			- 139 %			H	
	FBP		87.4%			- 132 %	• .		R	
p-7	Terphenyl-d14		85.8%		31.7	- 379 %			W	

TestAmerica Spokane

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11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number: Project Manager: 073-93312-03 Doug Morell Report Created:

10/28/09 14:26

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-04 (G-RS8SED-0-0907	09)	Soi	l		Samp	ied: 09/0	7/09 14:50	•		
I-Methylnapthalene	EPA-8270 mod.	ND		0.00489	mg/kg dry	lx	9090116	09/17/09 12:06	09/18/09 20:20	
2-Methylnaphthalene	•	ND		0,00489	•		ч	*	h	
Acenaphthene	<b>N</b> "	ND	_	0,00489	•	*	r	•	т	
Acenaphthylene	•	ND		0,00489		ч	,,	•	•	
Anthracene		ND	_	0,00489	ø	p	19	•		
Benzo (a) anthracene	•	ND	_	0.00489	•			•	· u	
Зепло (а) ругеве	•	ND	_	0,00489	-	•	v	*	*	
Benzo (b) fluoranthene	•	ND		0,00489	•	#		•	•	
Benzo (ghi) perylene		ND	_	0,00489	•	•	•	•	**	
Benzo (k) fluoranthene		ND		0.00489	н		*	•	n	
Chrysene		ND	_	0.00489	•		*	•	4	
Dibenzo (a,h) anthracene	р	ND		0.00489	*	0		•	ıı	1
inoranthene		ND		0,00489	*	•		•	<b>"</b>	
Juorene		ND		0,00489			*	*	п	
ndeno (1,2,3-cd) pyrene	u	ND		0.00489	•	*			. т	
Naphthalene	u.	. ND		0,00489		•	٠	*	10°	
Phenanthrene	•	ND		0.00489		и	4	h	14	
- yrene	•	ND	-	0,00489		*			a)	
Surrogaie(s): Niirobenzene-d5	<del></del>		77.8%		38.8 -	139 %				
2-FBP			78.4%		40 -	132%	pi .	•	и .	
p-Terphenyl-d14			83.6%		31.7-	179 %	"		8	
S10049-05 (G-RS7SED-0-0907	09)	Soi	J .		Samp	led: 09/0	7/09 15:30	•	•	
-Methylnapthalene	EPA 8270 mod.	ND	·	0,00497	mg∕kg dry	lx	9090116	09/17/09 12:06	09/18/09 20:42	
-Methylnaphthalene		ND		0.00497	*	•	٠			
Acenaphthene		ND	_	0.00497	•		•	•	* •	
Acenaphthylene	n	ND		0.00497		-			<b>el</b>	
Anthracene	'n	ND	_	0.00497	•	п			•	
Benzo (a) anthracene		ND		0.00497			•		· •	
Benzo (a) pyrene		ND		0.00497			17		N	
Benzo (b) fluoranthene		0.00530		0.00497			. •		٠	
Benzo (ghi) perylene	и	ND		0.00497	•	u,		. н	•	
Benzo (k) fluoranthene	•	ND		0.00497	*	•	**		w	
Chrysene	•	ND		0,00497		•	•		0	
Dibenzo (a,h) anthracese	0	ND		0,00497	•	*	•		H	
• • • • • • • • • • • • • • • • • • • •		0.0139		0.00497	4		н		u	
Fluoranthese										
Fluoranthene Fluorene	7	· ND		0,00497		-	u	U	,	

TestAmerica Spokane

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Randee Decker, Project Manager

Page 14 of 168.



11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/28/09 14:26

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

				7 000 1111	TICK OPO	ikumo					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-05	(G-RS7SED-0-09070	19)	Soi	1		Samp	oled; 09/0	7/09 15:30			
Naphthalene		EPA 8270 mod.	ND		0.00497	mg/kg dry	lx	9090116	09/17/09 12:06	09/18/09 20:42	
Phenanthrene		ŋ	ND	_	0.00497	*	lr .	•	-	•	
Pyrene ·		•	0.0119		0.00497	•	υ.	u		п	
Surrogate(s,	): Nitrobenzene-d5			83.0%		38.8	- 139 %	ir .		. "	
	2-FBP			88.0%			- 132 %	*		n	
•	p-Terphenyl-d14			84.8%		31.7	- 179 %	tr		Ą	
SSI0049-06	(G-RS7SED-4-09070	09)	Soi	ij.		Samy	pled: 09/	07/09 15:25			
1-Methylnapthale	ene :	EPA 8270 mod.	ND	_	0.00473	mg/kg dry	lx	9090116	09/17/09 12:06	09/18/09 21:03	
2-Methylnaphtha	lene	p.	ND	_	0.00473	•			•	н	
Acesaphthene		•	מא		0.00473	•	•	•	*	*	
Acenaphthylene		<b>.</b>	ND	_	0,00473	•		*	*	40	
Anthracene		,*	ND		0,00473	le e		Ħ	*	•	
Benzo (a) anthra	cene		ND	_	0.00473			н	h	н	
Benzo (a) pyrene	:	•	ND	. —	0.00473	ø	•	•	•	ti.	
Benzo (b) fluora	nthene		ND		0.00473	tı	•	. •	•	•	•
Benzo (ghi) pery	lene		. ND	_	0,00473	•	*		•		
Benzo (k) fluora	nthene	л	ND	_	0,00473	lı .		•	-	ii.	
Chrysene	•	•	ND		0,00473	H	•	*	*	*	
Dibenzo (a,h) an	thracese	•	ND		0,00473	•			•	•	
Fluoranthene			ND		0.00473	•	*	•	,	a	
Fluorene		•	ND		0,00473	•			•		
Indeno (1,2,3-ed)	ругеле	• .	ND	_	0,00473	н	**	н	u		•
Naphthalene		*	ND		0.00473	-		•	•	. •	
Phenanthrene		н	ND		0.00473	. *	н	•	, "	<b>e</b> 1	
Pyrenc		II.	ND _.	_	0.00473		. *	•	•	H	
Surrogate(s,	): Nitrobenzene-d5			78.2%		38.8	- 139 %	"		n	
	2-FBP	•		80.8%			- 132%	,,		,,	
	p-Terphenyl-d14			81.0%		31.7	- 179 %	,,		97	

TestAmerica Spokane

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Randee Decker, Project Manager

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11922 E.15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project-Manager: 073-93312-03

Doug Morell

Report Created: 10/28/09 14:26

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

		Ţ	estAme	rica Spo	kane			*			
Analyte	Method	Result 🕡	MDL*	MRL	Units	Dîl	Batch	Prepared	Analyzed	Notes	
SSI0049-07 (G-RS2SED-3-09070	9)	Soil			Samp	led: 09/0	7/09 16:15				
1-Methylnapthalene	EPA 8270 mod.	ND		0.00841	mg/kg dty	2x	9090116	09/17/09 12:06	09/21/09 21:38		
2-Methylnaphthalene	*	ND	_	0,00841		٠.	•		•		
Acenaphthene	ů	ND		0,00841		٠	•		• .		
Acenaphthylene	Ü	ND		0.00841			н +	π	**		
Anthracene	•	ND		0,00841	•	•	ь	•	. "		
Benzo (a) anthracene		ND 🎗	_	0,00841	H	•	*	. •	10	101	
Benzo (a) pyrene	•.	ND R		0.00841	•	-	•			101	
Benzo (b) fluoranthene	•	ND 12		0.00841	n		41	•		101	
Benzo (ghi) perylene	*	0.0112 J	_	0.00841	ж .			O			101
Benzo (k) fluoranthene	•	ND R	_	0.00841	B	#		•	<b>m</b>	101	
Chrysene	#	ND R		0.0084)	11		•	•	и .	101	
Dibenzo (a,h) authracene	٠	0.00897		0.00841	и	•	•	ĸ	•		161
Fluoranthene		ND	·	0.00841	*	•	. *		D		
Fluorene	₩	ND	_	0.00841	D	77	٠,	٠.	н		
Indeno (1,2,3-cd) pyrese	h	ND R		0.00843			11	•	• 4	101	
Naphthalene	. *	ND		0.00841			*	*	n		
Phenanthrene	4	ND		0,00841			*	•	N		
Pyrene	<b>w</b>	ND <b>R</b>		0.00841	*	•	.•	•	e e	101	
Surrogote(s): Nitrobenzene-d5		- 44	.8%		38.8	- 139 %			n	•	_
2-FBP	•	48	.8%		40	- 132 %	er .		Ħ		
p-Terphenyl-d14		90	.0%		31.7	- 179 %	"			TO3	
SSI0049-08 (G-RS2SED-0-09070	9)	Soil		•	Samp	oled: 09/0	7/09 16:20				
I-Methỳinapthalene	EPA 8270 mad.	ND	****	0.00498	mg/kg dry	łх	9090116	09/17/09 12:06	09/21/09 18:28		
2-Methylnaphthalene		ND	*****	0.00498		n	•	*	•		
Acenaphthene	Ψ.	ND		0.00498	•	u		•	u ,		
Acenaphthylene	h	ND	_	0.00498	¥	H		*	u		
Anthrocene	н	ND		0.00498	*	. *			II <del>.</del>		
Benzo (a) anthracene	ч	ND	_	0.00498	w	-		. •	N.		
Benzo (a) pyrene		ND		0.00498	•			•	*		
Benzo (b) fluoranthene	*	ND		0.00498	U		•	• .			
Benzo (ghi) perylene	w	0.0115	_	0,00498		ä	•		н		
Benzo (k) fluoranthene	<b>F</b>	ND		0,00498			P		W 1		
Chrysene	•	ND		0,00498	*	•		-	•		
Dibenzo (2,h) anthracene	н	0.00745		0.00498	•			p	•		
Fluoranthene		ND		0.00498	n	**			. 0		
Fluorene	•	ND	_	0,00498			*	*	,		
Indeno (1,2,3-cd) pyrene	-	0,00881		0,00498	я .						

TestAmerica Spokane

The results in this report apply in the samples analyzed in accordance with the chain of custody document. This analytical report must be repruduced in its entirety.



11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 (ax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

**Avery Landing** 

Project Number: Project Manager: 073-93312-03

ager: Doug Morell

Report Created:

10/28/09 14:26

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
\$\$10049-08	(G-RS2SED-0-09070		Soi			Samp		07/09 16:20			
Naphthalene	,	EPA 8270 mod.	ND		0.00498	mg/kg dry	lx	9090116	09/17/09 12:06	09/21/09 18:28	
Phenanthrone		В	ND		0.00498		•			n .	
Pyrene		n	סא		0,00498	P		•	•	n	
Surrogate(s	): Nitrobenzene-d5		-	47.2%	-	. 38.8	- 139 %	"		"	
	2-FBP			50.8%		40 -	132%			#	
	p-Terphenyl-di-l	•		53.0%		31.7	- 179 %	"		"	
SS10049-10	(G-RS5SED-0-09080		Soi	1)		Samp	led: 09/	08/09 08:30			
l-Methylnapthal	ene	EPA 8270 med.	ND		0.00488	mg/kg dry	lx	9090116	09/17/09 12:06	09/19/09 00:36	
2-Methylnaphtha	atene	•	ND	_	0,00488	H	. *	•	•	н	
Acenaphthene		щ	ND	_	0.00488	11	• •	•	•		
Acenaphthylene		0	ND		0.00488	•	0	•	-		
Anthracene		tr	ND		0,00488		-		đ	•	
Benzo (a) an thr	acene	ч	0.00586		0.00488	*			•	τt	
Benzo (a) pyren	e	ti	0.00521		0.00488	•	*	. 0	P	н	
Benzo (b) fluora	athene	•	ND		0,00488	U	. "	-	•	n ·	
Benzo (ghi) perj	ylene	н .	0,00586	_	0.00488		٠	*	11	٠.	
Senzo (k) fluors	inthene	*	0.0104		0,00488	b		*	•	H	
Chrysene		•	0.00976	_	0,00488	•	-	•	*	N	
Dibenzo (a,h) au	thracene	u .	ND	_	0.00488	D	•	*	•	si	
Juoranthene		H	0.00716	_	0,00488		•	*	*	N	
Fluorene		•	ND		0.00488		*	-	•	•	
indeno (1,2,3-cd	) pyrene	<b>H</b>	ND		0.00488			•		•	
Naphthalene		*	ND.	<del></del> ·	0,00488	•	P		•	<b>t</b> r	
Phenanthrene		*1	ND		0,00488	•	•	•			
Pyrene			0.0143	_	0.00488	•			*		
Surrogate(s				84.4%			- 139 %	r:	_	ır	
	2-FBP			87.6%			- 132,%	er .		a	
	p-Terphenyl-d14			98.0%		31.7	- 179 %	PF .		μ	

TestAmerica Spokane

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Randee Decker, Project Manager

Page 17 of



SPOKANE, WA

11922 E, 1ST AVENUE SPOKANE VALLEY, WA 99205-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager: De

Doug Morell

Report Created; 10/28/09 14:26

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Dennari d	Analyzed	\$1_ ¢
<del></del>	DSED-0-090809)	Soi		WIKL			8/09 08:35	Prepared	Analyzed	Notes
l-Methylnapthalene	EPA 8270 mod.	ND		0.00489	mg/kg dry	1x	9090116	09/17/09 12:06	09/21/09 18:49	
i-Methylnaphihalene	12FA 8270 HAJU,	ND		0.00489	mgreg city	,	9090110	09/1//09 12:00	09/2]/09 18:49	
• •		ND		0.00489						
Acenaphthene			_	0.00489						
Acenaphthylene		ND					_		_	
Anthracene		NĎ		0,00489	_	-	-	-	<u>.</u>	
Benzo (a) anthracene	u u	ND		0,00489						
Benzo (a) pyrene	·	ND		0.00489	_	_	_			
lenzo (b) fluoranthene		0.00587		0,00489	-		-		-	
lenzo (ghi) perylene	<u>.</u>	0.00848	_	0.00489	-	-	-			
Benzo (k) fluoranthene	_	ND		0.00489		-	_		-	
Chrysene	- -	ND	-	0,00489	-		_	•		
Dibenzo (a,h) anthracene	-	0,00522	•	0.00489	-	-	_			
luoranthene	<u>.</u>	ND		0,00489		-		•		
luorene	•	ND	_	0,00489	"	•	•	•		
ndeno (1,2,3-cd) pyrene	-	0.00718	-	0.00489	•		*	-	11	
laphthalene		ND	_	0,00489	•	•	. "	•	**	
henanthrene	u	ND		0.00489	•		•	4	•	
угеле	R.	ND		0.00489	ii ii	ь.			н	
Surrogate(s): Nitrol	penzene-d5		59.4%		38.8 -	139 %	"		#	
2-FBI			70.0%		40 -	132 %	17		"	
р-Теп	ohenyi-di 4		64.8%		31.7-	179 %	•		u	
S10049-12 (G-RS5	SED-4-090809)· ·	Soi	ı	•	Samp	led: 09/0	8/09 08:45			
-Methylnapthalene	EPA 8270 mod.	0,101	_	0,00498	mg/kg dry .	łх	9090116	09/17/09 12:06	09/23/09 17:3]	
-Methylnaphthalene	•	ND		0.00498	*	•	•	•	H	
cenaphthene	•	0.0453		0.00498		•	*	4	, .	
cenaphthylene	h	ND		0,00498	•	. • .		н .	U	
nthracene	•	0.0122		D.00498	11	17	-	• ,		
Senzo (a) anthracene	•	0.0326		0.00498				Ħ	•	
lenzo (a) pyrene	•	0.0774	_	0.00498		*		•	4	
enzo (b) fluoranthene	π	0.143		0,00498	ч	*	•		н	
enzo (ghi) perylene	*	0.106	· <u>·</u>	0.00498				*	#	
Benzo (k) fluoranthene	•	ND		0,00498	•	•	•	*	ti .	
hrysene	•	0.0625		0.00498	*	*	•	*	. •	
oibenzo (a,h) anthracene	<b>u</b>	0.0370		0,00498	ur .		u	0	11	
luoranthene	и	0.0293		0,00498		•	P	•	b	
luorene	*	0.0840		0,00498	•	H		•		
ndeno (1,2,3-cd) pyrene	•	0.0746		0,00498	*	*	۳	11	U	
aphthalene		0.0122		0.00498						

TestAmerica Spokane

The results in this report apply to the samples analyzed in occardance with the chain of custody document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager

Page 18 of 168



SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number:

073-93312-03

Report Created:

Project Manager: Do

Doug Morell

10/28/09 14:26

# Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

			TestAme	rica Spo	kane		<u> </u>			<del> </del>
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SI0049-12 (G-RS5SED-4-09080	09)	Soi	1		Samp	led: 09/0	8/09 08:45			•
henanthrene	EPA 8270 mod.	0.0802	-	0.00498	mg/kg dry	lx	9090116	09/17/09 12:06	09/23/09 17:31	
yrene	n	0.129	_	0,00498	•	*		•	•	
Surrogate(s): Nitrobenzene-d5		<u> </u>	85.8%		38.8	- 139 %	H		#	
2-FBP			96.0%		40	- 132 %	U		u	
p-Terphenyl-d14			119%		31.7	- 179 %	"		н	
S10049-13 (G-RS6SED-0-09080	09)	Soi	1		Samj	oled: 09/0	08/09 07:40			
-Methylnapthalene	EPA 8270 mod.	ND		0.00462	mg/kg dry	ìх	9090116	09/17/09 12:06	09/18/09 22:07	
-Methylnaphthalene	•	ND	_	0,00462		7	n		и	
cenaphthene	•	ND		0,00462		•	•	*	•	
.cenaphthylene	w	ND		0.00462	. •		•		u	
nthracene	n	ND		0,00462	-			•	*	
enzo (a) anthracene		ND	_	0,00462	*	•	-	• 1	•	
enzo (a) pyrene	11	ND		0,00462		н			•	
enzo (b) fluoranthene		ИD		0.00462	•	•	•		40	
enzo (ghi) perylene		ND		0.00462	*	31		-	•	
enzo (k) fluoranthene	и	ND		0,00462	•	•		•	•	
hrysene	. н	ND		0,00462	н		4	ч	•	٠
ibenzo (a,h) anthracene	и.	ND	-	0.00462	н	• .	i.		•	
uoranthene	U	0.00616		0.00462					'n	
luorene		ND	_	0,00462	•	-	**		et:	
deno (1,2,3-cd) pyrene	*	ND		0.00462		•	•		*	
aphth alene	*	ND	_	0.00462		h	*	-	•	
henanthrene	•	ND	_	0.00462	*	•		*		
yrene	u	0.00555	_	0.00462	*	•	* *	ji	, 10	
Surrogate(s): Nitrobenzene-d5			65.6%		38.8	- 139 %	N		и	
2-FBP			66.8%		40	- 132 %	tı		"	
p-Terphenyl-d14			76.2%		31.7	- 179 %	rr		n	
SI0049-14 (G-RS6SED-3-09080	09)	Soi	i Q	-	Samj	pled: 09/	08/09 07:35			
-Methylnapthalene	EPA 8270 mod.	ND		0,00499	mg/kg dry	, lx	9090116	09/17/09 12:06	09/18/09 22:28	
-Methylnaphthalene	n .	ND-	<u>.</u>	0.00499	•	,			•	
cenaphthene		ND	_	0.00499	**	<b>*</b>	•			
cenaphthylene	- "	ND	_	0.00499		n		a	11.	
inthracene	•	ND		0.00499	•	н		b	ú	
enzo (a) anthracene		ND		0.00499	•	*	•	b	IF	
enzo (a) pyrene	•	ND	R	0.00499	*	-				101
			_ `			_		_		

Benzo (b) fluoranthene
TestAmerica Spokane

The results in this repair apply to the samples analyzed in accordance with the chain of castody document. This analysical repair must be reproduced in its entirety.

Randee Decker, Project Manager

Page 19 of 168



SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph; (509) 924,9200 fax: (509) 924,9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager. 073-93312-03

Doug Morell

Report Created:

10/28/09 14:26

#### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring TestAmerica Spokane MDL* MRL Analyte Method Result Dii Batch Prepared Analyzed Notes Soil SSI0049-14 (G-RS6SED-3-090809) Sampled: 09/08/09 07:35 EPA 8270 mod. ND 0.00499 mg/kg dry lx 9090116 09/17/09 12:06 09/18/09 22:28 101 Benzo (ghi) perylene ND R 0.00499 101 Benzo (k) fluoranthene ND 0,00499 Chrysene Dibenzo (a,h) anthracene ND R 0.00499 101 ND 0.00499 Fluoranthene 0.00499 ND Fluorene 0.00499 ND R 101 Indeno (1,2,3-cd) pyrene 0.00499 ND Naphthalene 0.00499 ND Phenanthrene 0.00499 ND R Nitrobenzene-d5 82.6% 38.8 - 139 % Surrogate(s): 2-FBP 92.0% 40 - 132 % 83.0% 31.7 - 179 % p-Terphenyl-d14 SS10049-15 (G-RS3SED-4-090809) Seit Sampled: 09/08/09 11:15 I-Methylnanthalene EPA 8270 mod. 0.0964 0.00831 mg/kg dry 9090116 09/17/09 12:06 09/21/09 21:39 0.00831 2-Methylmaphthalene ND 0.00831 0.103 Acenaphthene Acenaphthylene ND 0,00831 0.00831 Anthracene 0.120 Benzo (a) anthracene 0,0709 0.00831 101 103 0.0333 🕇 0.00831 Benzo (a) pyrene 101 Benzo (b) fluoranthene 0.0388 0.00831 0.00831 101 Benzo (ghi) perylene 0.0299 ND R 0,00831 101 Benzo (k) fluoranthene 0,00831 101 0.129 丁 Chrysene 0.0111 🎳 0.00831 101 Dibenzo (a,h) anthracene 0.0521 0,00831 Fluoranthene 0.0083) 0.0998 Fluorene 0.0144 J 0.00831 101 Indeno (1,2,3-cd) pyrene Naphthalene ND 0,00831 0,00831 Phenanthrene 0.354 Pyrene 0.440 🗇 0.00831 36 0% 38.8 - 139 % Surrogate(s): Nitrobenzene-d5 **Z**3 2-FBP **42.0%** 10 - 132 %

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custady document. This analytical report must be reproduced in its entirety.

(andis Randee Decker, Project Manager

p-Terphenyl-dl-l

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*101* 

76.4%

31.7 - 179 %



SPOKANE, WA

11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc. .

18300 NE Union Hill Rd. Suite 200

Redmond, WA 98077

Project Name:

Avery Landing

Project Number:

073-93312-03

Project Manager: Doug Morell

Report Created: 10/28/09 14:26

### Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	<del></del>		CestAme					<del></del>			=
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	:5
SSI0049-16 (G-RS3SED-0-09080	9).	. Soit	<u> </u>		Samp	led: 09/0	8/09 11:10				
-Methylnapthalene	EPA 8270 mod.	0.0176	_	0,00471	mg/kg dry	lx	9090116	09/17/09 12:06	09/21/09 20:36		
2-Methylnaphthalene	. În	ND		0.00471	4	п	**	•	` •		
Acenaphthene .	D	0.0101	_	0,00471	ъ	*	*	•	H		
Acenaphthylene	*	ИО	_	0,00471	ŧ	•	•				
Anthracene	U	0.00817		0,00471	"	*	••	•	11		
Benzo (a) anthracene	н	ND 🔀		0.00471		•	11	11		101	
Benzo (a) pyrene	a	0.0101 🎵	<del></del> ·	0.00471	٠	•	,				
Benzo (b) fluorenthene	)ı	ND 🎉	_	0,00471	•	-	H	•	u	101	
Benzo (ghi) perylene	**	0.0277		0,00471	•	*	μ	•	H		. :
Benzo (k) fluoranthene	•	ND K	_	0,00471	•	*			•	101	
Chrysene		0.0101	—	0,00471	•	•	4	*	N		:
Dibenzo (a,h) anthracene	•	0.0151		0,00471	b	•	u	•	۰,		:
Fluoranthene	•	ND		0.00471	*	•	n	•	n		
Fluorene	•	0.0151		0.00471		-			-		
Indeno (1,2,3-cd) pyrene	•.	0.0182 🍸		0.00471	• .	-	•	. •			
Naphthaicne	41	ND		0.00471	•	•	. •	•	u		
Phenanthrene	ų	0.0214		0,00471	• ,	-					
Pyrene	<b>b</b>	0.0270		0,00471	•	-		u	•		
Surrogate(s): Nitrobenzene-d5		GE	0.0%		38.8	- 139 %	,		"		
2-FBP	•	d:	2.0%		40	- 132%					
p-7'erphenyl-d14		1	22%		31.7	- 179 %	"			101	
SSI0049-17 (G-RS4SED-0-09080	9)	Soil			Samp	oled: 09/0	8/09 12:20				
1-Methylnapthalene	EPA 8270 med,	ND		0.00947	mg/kg dry	2x	9090116	09/17/09 12:06	09/19/09 06:40		
2-Methylnaphthalene	•	ND		0.00947			•	-	h		
Acenaphthene	•	ND	_	0.00947	4	-	-	•	a		
Acenaphthylene	•	ND		0,00947		•		•	a		
Anthracene		ND		0,00947					•		
Benzo (a) anthracene	in .	ND R		0,00947	н	Ħ			4	· 101	
Benzo (a) pyrene	7	0.0455		0.00947				-	н		
Benzo (b) fluoranthene	h	ND R		0.00947	•	-			ч	101	
Benzo (ghi) perylene	li .	0.0101		0.00947		я		•	u		
Benzo (k) fluoranthene		0.0467	· —	0,00947		*		• •			
Chrysene		0.0455		0.00947	ь		•	•	<b>.</b>		
Dibenzo (a,h) anthracene	•	0.0152	_	0.00947	n			•	-	•	
Fluoranthene	а	0.0189	٠	0.00947			•		41		
Fluorene	я	ND		0.00947			•		0		
	4	_	-	0.00947	h		br.	*			
Indeno (1,2,3-cd) pyrene		0.0114		U,UUY4 r							

TestAmerica Spokane

The results in this report apply in the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager

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SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

**Avery Landing** 

18300 NE Union Hill Rd. Suite 200

Project Number:

073-93312-03

Report Created:

Redmond, WA 98077

Project Manager:

Doug Morell

10/28/09 14:26

## Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring

TestAmerica Spokane

Analyte		Method	Result	MDL*	MRL	Voits	Dil	Batch	Prepared	Analyzed	Note	es
S\$10049-17 (	G-RS4SED-0-09080	9)	So	10		Samp	led: 09/0	38/09 12 <b>:2</b> 0	<del></del>	•		
Phenanthrene		EPA 8270 mod.	0.0202		0.00947	mg/kg dry	2x	9090116	09/17/09 12:06	09/19/09 06:40		
Pyrene		н	0.0960	<b>7</b> —	0,00947	×			4	'n		10
Surrogaie(s):	Nitrobenzene-d5			104%		38,8 -	139%	п			-	
	2-FBP			148%		40 -	132 %	P		,,	.ZX	
•	p-Terphenyl-d14			319%		31.7-	179 %	#		"	101. ZX	
SS10049-18 (	G-RS4SED-4-09080	9)	So	jŧ		Samp	led: 09/	08/09 12:25				
1-Methylnapthalene	2	EPA 8270 mod.	ND		0.00477	mg/kg diy	lx	9090116	09/17/09 12:06	09/21/09 18:06		
2-Methylnaphthaler	ne	•	ND	_	0.00477	н	a	•	n			
Acenaphthene		•	ND		0.00477	н	•	17	и	•		
Acenaphthylene		•	ND		0,00477	• •		•	n	, n		
Anthracene		7	ND		0.00477	*	•	ĸ		•		
Benzo (a) anthracer	ne		ND	_	0,00477	4						
Benzo (a) pyrene			ND		0,00477			*				
Benzo (b) fluoranth	ene	n	ND	_	0.00477	*			*	•		
Benzo (ghi) peryler		**	0.0101		0,00477	-			-	*	•	
Benzo (k) fluoranth		*1	ND		0.00477		. "		•	•		
Chrysene		ŧ	ND		0,00477	•	-	•	u	u		
Dibenzo (a,h) anth	racene	•	0.00796		0.00477			k				
Fluorauthene	•	đ	ND	_	0,00477		w	-		10		-
Fluorene		41	ND	_	0,00477	*	•	*	•	*		
Indeno (1,2,3-cd) p	yrene	•	0.00849	_	0.00477		٠	-	•	*		
Naphthalene		п	ND		0,00477		-	•	•	-		
Phenanthrene		7	ND	, —	0.00477	•	*		-	•		
Pyrene			0,00636		0,00477	o		•	•			
Surrogate(s):	Nitrobenzene-d5			15.2%		38.8	- 139 %	,	· · · · · · · · · · · · · · · · · · ·	*		
	2-FBP			47.4%		40	- 132%	я		n		
	p-Terphenyl-dl 4			52.6%		31.7	- 179%	*		•		

TestAn	ienca	Spoke	ne

The results in this report apply to the samples analyzed in accordance with the chain of cusualy thocument. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager





SPOKANE, WA 11922 E. 1ST AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077

Project Number: Project Manager:

073-93312-03 Doug Morell

Report Created:

10/28/09 14:26

#### Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

Analyte	Method	Result	MDL.	MRL	Units	lid	Batch	Prepared	Analyzed	Notes
SSI0049-01 (G-RS1SED-4-090709	)	. Sei	ì		Samp	led: 09/	07/09 13:50			
Diesel Range Hydrocarbons	NWTPH-Dx	66.3		12.8	mg/kg dry	lx	9090105	09/16/09 08:11	09/17/09 09:55	
Heavy Oil Range Hydrocarbons	н	464	<del></del>	31.9	•		41			
Surrogate(s): 2-FBP			92.2%			150 %	*	•	,,	
p-Terphenyl-d14			111%		50 -	150 %	*		n	
SSI0049-02 (G-RS1SED-0-090709)	)	Soî	l		Samp	led: 09/	07/09 13:55			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		15,1	mg/kg dry	1x	9090105	09/16/09 08:11	09/17/09 10:19	
Heavy Oil Range Hydrocarbons	u	89.0		37.8	•	n	*		н	
Surrogate(s): 2-FBP		-	80.9%		50 -	150 %	lr .	,	н	
p-Terphenyl-dJ4			99.9%		50 -	150 %	и		ø	•
SSI0049-03 (G-RS8SED-3-090709)	)	Seil	I		Samp	leð: 09/	07/09 14:45	•		
Diesel Range Hydrocarbons	NWTPH-Dx	ND		12.5	mg/kg dry	1x	9090105	09/16/09 08:11	09/17/09 10:43	
Heavy Oil Range Hydrocarbons		ND		31.3		4	H	•	и	
Surrogate(s): 2-FBP			78.5%		50 -	150 %	v		н	
p-Terphenyl-d14			100%		50 -	150 %	v		н	
SSI0049-04 (G-RS8SED-0-090709)	, ,	Seil	l	_	Samp	łed; 09/	07/09 14:50			
Diesel Range Hydrocarbons	NWTPH-Dx	ND	_	14.7	mg/kg dry	ŀκ	90901 05	09/16/09 08:11	09/17/09 11:06	
Heavy Oil Range Hydrocarbons	er	ND		36.7	<u>.</u>			*	н	
Surrogate(s): 2-FBP	_		69.8%		50 -	150 %	н		н	
p-Terphenyl-d14		:	98.7%		<i>50</i> -	150 %	**	-	н	
SSI0049-05 (G-RS7SED-0-090709)	<u> </u>	Soil	•		Samp	led: 09/	07/09 15:30			
Diesel Range Hydrocarbons	NWTPH-Dx	ND	_	14.9	mg/kg dry	lx	9090105	09/16/09 08:11	09/17/09 11:30	
Heavy Oil Range Hydrocarbons	*	ND		37.3	*	ĸ		•	•	
Surrogate(s): 2-FBP			37.9%			150 %	н		н	
p-Terphenyl-d14			107%		50 -	150 %	"		N	
SSI0049-06 (G-RS7SED-4-090709)	·	Soil			Samp	led: 09/	07/09 15:25			
Diesel Range Hydrocarbons	NWTPH-Dx	ND		11.8	mg/kg dry	1x	9090105	09/16/09 08:11	09/17/09 11:54	
Heavy Oil Range Hydrocarbons		ND		29.6		٩		•	н	
Surrogate(s): 2-FBP		ł	11.1%		.50 -	150 %	P		н	
p-Terphenyl-d14			102%		.50 -	150 %	"		*	

	Ί	estA	merica	Spokano	
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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

t<u>andi</u> Randee Decker, Project Manager





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SPOKANE, WA 11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924,9200 fex: (509) 924,9290

Golder Associates, Inc.

Project Name:

Avery Landing

18300 NE Union Hill Rd. Suite 200 Redmond, WA 98077 Project Number:

073-93312-03

Report Created:

Project Manager: Doug Morell

10/28/09 14:26

#### Semivolatile Petroleum Products by NWTPH-Dx

			TestAme	nea spe	okane					
Analyte	Method	Result	MDL*	MRL	Units	Dif	Batch	Prepared	Analyzed	Notes
SSI0049-07 (G-RS2SED-3-090709)		Soi	l .		Samp	led: 09/	07/09 16:15			
Diesel Range Hydrocarbons	NWTPH-Dx	62.4		12.6	mg/kg dry	lx	9090105	09/16/09 08:11	09/17/09 12:17	
Heavy Oil Range Hydrocarbons	•	272		31.5	•	•	-		<b>.</b> .	
Surrogate(s): 2-FBP			89.2%		50 -	150 %	n		"	
p-Terphenyl-d14		•	110%		50 -	150 %	н		Ħ	
SSI0049-08 (G-RS2SED-0-090709)		Soi	ı		Samp	led: 09/	07/09 16:20			
Diesel Range Hydrocarbons	NWTPH-Dx	74.3		15.2	mg/kg dry	lx	9090105	09/16/09 08:11	09/17/09 12:41	
Heavy Oil Range Hydrocarbons	н	336		3B. !	•		-	,	. •	
Surrogate(s): 2-FBP			90.5%		50 -	150 %	#		,	
p-Terphenyl-d14			114%		50 -	150 %	n		n	
SSI0049-09 (G-EB-090709)		Wa	(er		Samp	led: 09/	07/09 17:00			
Diesel Range Hydrocarbons	NWTPH-D _K	ND		0.245	mg/l	Ιx	9090094	09/15/09 07:58	09/17/09 03:39	
Heavy Oil Range Hydrocarbons	н .	ND	_	0.490		•	•			
Surrogate(s): 2-FBP			71,5%		50 -	150 %	н		"	
p-Terphenyl-d14		,	91.7%		50 -	150 %	#		"	
SSI0049-10 (G-RS5SED-0-090809)		Soil	l		Samp	led: 09/	08/09 08:30	***		
Diesel Range Hydrocarbons	NWTPH-Dx	24.3	_	14.6	mg/kg dry	lx	9090105	09/16/09 08:11	09/17/09 13:05	
Heavy Oil Range Hydrocarbons	·	112		36,6	*	•		***************************************	<u> </u>	
Surrogate(s): 2-FBP			78.6%			150 %	Ħ	•	н	
p-Terphenyl-d]4		:	90.0%		50 -	150 %	n		M	
SSI0049-11 (G-RS5DSED-0-090809	)	Soil			Samp	led: 09/	08/09 08:35			
Diesel Range Hydrocarbons	NWTPH-Dx	36,9		14.7	mg/kg dry	lx	90901 05	09/16/09 08:11	09/17/09 09:55	
Heavy Oil Range Hydrocarbons		182		36.7						
Surrogate(s): 2-FBP			99.3%		50 -	150 %	"		n	
p-Terphenyl-d]4			124%		50 -	150 %	"		μ	
SSI0049-12 (G-RS5SED-4-090809)		Soil			Samp	led: 09/	08/09 08:45			
Diesel Range Hydrocarbons	NWTPH-Dx	73.1		12.4	mg/kg dry	lx	9090105	09/16/09 08:11	09/17/09 10:19	
Heavy Oil Range Hydrocarbons	· · · · · · · · · · · · · · · · · · ·	178		31.1	<u> </u>	*		**		
Surrogate(s): 2-FBP		5	71.3%			150 %	n	-	n	
p-Terphenyl-d]4	·		121%		50 -	150 %	B		ır	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of outstody document. This analytical report must be reproduced in its entirety.

Randee Decker, Project Manager





THE LEADER IN ENVIRONMENTAL TESTING

SPOKANE, WA

11922 E. 1ST AVENUE SPCKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc. **Avery Landing** Project Name: 18300 NE Union Hill Rd. Suite 200 Project Number: 073-93312-03

Redmond, WA 98077 Doug Morell Project Manager:

Report Created: 10/28/09 14:26

### Semivolatile Petroleum Products by NWTPH-Dx

TestAmerica Spokane

<del></del>			TestAme				<u></u>	<del>,</del>		
Analyte	Method	Result	MDL*	MRL		Dil	Batch	Prepared	Analyzed	Notes
SSI0049-13 (G-RS6SED-0-090809	)	Soil			Samp	oled: 09	08/09 07:40			
Diesel Range Hydrocarbons	NWTPH-Dx	22.4			mg/kg dry	1x	9090105	09/16/09 08:11	09/17/09 10:43	
Heavy Oil Range Hydrocarbons	*	140		34.7		-	•		H	
Surrogate(s); 2-FBP			33.8%			- 150 %	n		n	
p-Terphenyl-d14			119%		50 -	- 150 %	#		*	
SSI0049-14 (G-RS6SED-3-090809	)	Soil			Samp	led: 09	08/09 07:35			
Diesel Range Hydrocarbons	NWTPH-Dx	25.3		15.3	mg/kg dry	lx	9090105	09/16/09 08:11	09/17/09 11:06	
Heavy Oil Range Hydrocarbons		126	_	38,2		н	•	#	<b>«</b>	
Surrogate(s): 2-FBP		8	0.6%		50-	- 150 %	n		н	
p-Terphenyl-d14		,	113%		50 -	. 150 %	H		n	
SSI0049-15 (G-RS3SED-4-090809	)	Soil			Samp	led: 09/	08/09 11:15			
Diesel Range Hydrocarbons	NWTPH-D _K	403		12.5	mg/kg dry	ix	9090105	09/16/09 08:11	09/17/09 11:30	
Heavy Oil Range Hydrocarbous	•	5B\$	_	31,2	,			7		
Surrogate(s): 2-FBP		9	7.1%		50 -	150 %	u		o	
p-Terphenyl-d14		i	129%		50 -	150 %			•	
SSI0049-16 (G-RS3SED-0-090809)	•	Soil			Samp	led: 09/	08/09 11:10			
Diesel Range Hydrocarbons	NWTPH-Dx	194		14.1	mg/kg dry	1x	9090105	09/16/09 08:11	09/17/09 11:54	
Heavy Oil Range Hydrocarbons	*	492	-	35.4			*		*	
Surrogate(s): 2-FBP			0.9%			150 %	H	•	er .	
p-Terphenyl-d14		1	1 1 4%	-	50 -	150 %	h		"	
SSI0049-17 (G-RS4SED-0-090809)	<u>.                                    </u>	Soil			Samp	led: 09/	08/09 12:20	•		
Diesel Range Hydrocarbons	NWTPH-Dx	8830	_	142	mg/kg dry	10x	9090105	09/16/09 08:11	09/17/09 12:17	-,-
Heavy Oil Range Hydrocarbons	•	6980	_	355		н		R	*	
Surrogate(s): 2-FBP			4.7%			150 %	"		."	
p-Terphenyl-d14		7.	1.2%		50 -	150 %	N		"	
SSI0049-18 (G-RS4SED-4-090809)		Soil			Samp	led: 09/	08/09 12:25			
Diesel Range Hydrocarbons	NWTPH-D _X	39.6		11,9	mg/kg dry	1x	90901 05	09/16/09 08:11	09/17/09 12:41	
Heavy Oil Range Hydrocarbons	*	164		29,8	•	* 			h	
Surrogate(s): 2-FBP		8	5.2%			150 %	tr .		et	
p-Terphenyl-d14		1	21%		50 -	<i>150</i> %	ır		n	

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain

<u>(abo)</u> Randee Decker, Project Manager



Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-01

G-RS1-SED-4

Lab Sample ID:

580-15385-1

Client Matrix: Solid % Moisture: 18.6

Date Sampled: 09/07/2009 1350

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

**SEA015** 

Preparation:

5035

Prep Batch: 580-50608

Lab File ID:

I2109022.D

Dilution:

1.0

Initial Weight/Volume: 5.876 g

Date Analyzed:

09/21/2009 1833

Final Weight/Volume:

0.00036

0.0010

Date Prepared:	09/21/2009	1240
Date i repared.	0312 112003	1270

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroethane		0.00018	J	0.000092	0.0021
1,2,3-Trichloropropane		ND	•	0.00038	0.0010
1,2-Dibromo-3-Chloropropa	ane	0.00045	J	0.00019	0.0021
1,2-Dichloroethane		ND ·		0.00017	0.0010
1,2-Dichloropropane	•	ND		0.00018	0.0010
Bromoform		ND		0.000075	0.0010
Bromomethane		ND		0.00040	0.0010
Carbon tetrachloride		ND		0.00039	0.0010
Chloroethane		ND		0.00028	0.0010
Chloroform		ND		0.00015	0.0010
Chloromethane		0.0032		0.00018	0.0010
cis-1,3-Dichloropropene		ND		0.00012	0.0010
Dichlorobromomethane		ND		0.000077	0.0010
Ethylene Dibromide		ND		0.00014	0.0010
Hexachlorobutadiene	•	0.0011		0.00035	0.0010
trans-1,3-Dichloropropene		ND		0.00019	0.0010
Trichloroethene		ND		0.00018	0.0010
1,1,1-Trichloroethane		ND		0.00040	0.0010
Benzene		0.0013	سطر.	0.000083	0.0010
Chlorobromomethane		ND	••-	0.00026	0.0010
Tetrachioroethene		ND		0.00011	0.0010
1,1-Dichloroethane		ND		0.00041	0.0010
1,1,2-Trichloroethane		ND		0.00011	0.0010
Dichlorodifluoromethane		ND		0.00020	0.0010
Methylene Chloride		ND		0.00020	0.0010
n-Butylbenzene	,	0.0012		0.00033	0.0010
1,2,4-Trimethylbenzene		0.00077	J	0.00035	0.0010
2-Chlorotoluene		0.00035	Ĵ	0.00015	0.0010
Chlorodibromomethane		ND	•	0.00014	0.0010
Dibromomethane		ND		0.00011	0.0010
1,1-Dichloropropene		ND		0.00041	0.0010
Toluene		0.00080	45	0.000089	0.0010 <b>U</b> L
1.2.4-Trichlorobenzene		0.0011	JB.	0.00040	0.0021 LL
o-Xylene		0,00035	سط الم	0.000055	0.0010 LL o
Chlorobenzene	لمك	0.0011	8	0.00019	_0.0010 U =
1,3-Dichlorobenzene	214	0.00049	Ĵ	0.00040	0.0010
Naphthalene		0.0030	سطلس	0.00025	0.0052 1
Styrene———		0.00051		0.00033	0.0010
4-Chlorotoluene		0.00046	Ĵ	0.00040	0.0010
trans-1,2-Dichloroethene		ND	·	0.00030	0.0010
Bromobenzene		0.00033	J	0.00016	0.0010
1,2,3-Trichlorobenzene		0.0012	م <del>حا</del> لمه	0.00018	0.0021 <b>U</b>
1,1-Dichloroethene		ND ND	<u>ت جن </u>	0.00015	0.0052
1.2-Dichlorobenzene		0.00059	J	0.00036	0.0010
1,1,1,2-Tetrachloroethane		ND	U	0.000091	0.0010
1, 1, 1,2-1 etrachioroethane		מט		0.000091	U. <b>U</b> UTU

sec-Butylbenzene

0.00081

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-01

Lab Sample ID:

580-15385-1

Client Matrix:

Solid

% Moisture: 18.6 Date Sampled: 09/07/2009 1350

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

**SEA015** 

Preparation: Dilution:

5035 1.0

Prep Batch: 580-50608

Lab File ID:

12109022.D

Date Analyzed:

09/21/2009 1833

Final Weight/Volume: 5 mL

Initial Weight/Volume: 5.876 g

Date Prepared:

09/21/2009 1240

Qualifier	MDL	RL	
J	0.00016	0.0010	_
J	0.00016	0.0010	
	0.00040	0.0010	

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene		0.00035	J	0.00016	0.0010
Isopropyibenzene		0.00030	J	0.00016	0.0010
2,2-Dichloropropane		ND		0.00040	0.0010
N-Propylbenzene		0.00054	j	0.00015	0.0010
Trichlorofluoromethane		ND		0.00020	0.0010
4-Isopropyltoluene		0.0011		0.00032	0.0010
1,3,5-Trimethylbenzene		0.00060	J	0,00037	0.0021
cis-1,2-Dichloroethene		ND _		0.00013	0.0010
m-Xylene & p-Xylene		0.00066	کالہ ۴	0.00017	0.0021 U
Vinyl chloride		ND		0.00015	0.0010
tert-Butylbenzene		0.00082	J	0.00035	0.0010
1,4-Dichlorobenzene		0.00065	سكلم	0.00041	0.0010 <b>i</b>
1,3-Dichloropropane		ND		0.00023	0.0010

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	111	,	85 - 120
Toluene-d8 (Surr)	103		85 - 11 <b>5</b>
Trifluorotoluene (Surr)	<b>8</b> 5		75 - 12 <b>5</b>
1,2-Dichloroethane-d4 (Surr)	93		75 - 125

M8 11-6-09

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SS10049-02

G-RS1-SED-Ø

Lab Sample ID:

580-15385-2

Client Matrix:

Solid

% Moisture:

Date Sampled: 09/07/2009 1355

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

SEA015

Preparation:

5035

Prep Batch: 580-50608

Lab File ID:

Instrument ID:

I2109023.D

Dilution:

Initial Weight/Volume: 5.709 g

1.0

Date Analyzed: Date Prepared:

09/21/2009 1857 09/21/2009 1240

Final Weight/Volume	: 5 mL
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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroethane		ND		0.00011	0.0025
1,2,3-Trichloropropane		ND		0.00046	0.0013
1,2-Dibromo-3-Chloropropa	ine	ND		0.00023	0.0025
1,2-Dichloroethane		ND		0.00020	0.0013
1,2-Dichloropropane		ND		0.00022	0.0013
Bromoform		ND		0.000091	0.0013
Bromomethane		ND		0.00049	0.0013
Carbon tetrachioride		ND		0.00047	0.0013
Chloroethane	•	ND	-	0.00034	0.0013
Chloroform	•	ND		0.00019	0.0013
Chloromethane		ND		0.00022	0.0013
cis-1,3-Dichloropropene		ND		0.00015	0.0013
Dichlorobromomethane		ND		0.000094	0.0013
Ethylene Dibromide		ND		0.00017	0.0013
Hexachlorobutadiene		0.00047	ŗ	0.00043	0.0013
trans-1,3-Dichloropropene		ND	•	0.00023	0.0013
Trichloroethene		ND		0.00022	0.0013
1,1,1-Trichloroethane		ND		0.00049	0.0013
Benzene		0.08051	سكا لملد	0.00010	0.0013 LL
Chlorobromomethane	,	ND		0.00032	0.0013
Tetrachloroethene		ND		0.00013	0.0013
1,1-Dichloroethane		ND		0.00050	0.0013
1,1,2-Trichloroethane		ND		0.00013	0.0013
Dichlorodifluoromethane		ND		0.00024	0.0013
Methylene Chloride		ND	•	0.00024	0.0013
n-Butylbenzene		0.00052	J	0.00040	0.0013
1,2,4-Trimethylbenzene		ND		0.00042	0.0013
2-Chlorotoiuene		ND	•	0.00019	0.0013
Chlorodibromomethane		ND		0.00017	0.0013
Dibromomethane		ND		0.00013	0.0013
1,1-Dichloropropene		ND		0.00049	0.0013
Toluene		0,00 <del>0</del> 79	سطلد	0.00011	0.0013 كى
1,2,4-Trichlorobenzene		0.00054	طلد	0.00049	0.0025 L
o-Xylene		0.00017	سطلو	0.000067	0.0013 ii
Chiorobenzene		0.0012	JB	0.00023	0.0013 علم
1,3-Dichlorobenzene		ND .		0.00048	0.0013
Naphthalene		0.00067	س <u>ال</u> المد	0.00030	0.0063 LL
Styrene		ND ND		0.00040	0.0013
4-Chlorotoluene		ND		0.00049	0.0013
trans-1,2-Dichloroethene		ND		0.00036	0.0013
Bromobenzene		ND		0.00020	0.0013
1,2,3-Trichlorobenzene		. 0.00060	JAB P	0.00022	0.0025 U
1,1-Dichloroethene		ND	_	0.00018	0.0063
1,2-Dichlorobenzene		ND		0.00044	0.0013
4 4 4 0 T-4					
1,1,1,2-Tetrachloroethane		ND		0.00011	0.0013

TestAmerica Tacoma

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Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-02

Lab Sample ID:

580-15385-2

Client Matrix:

Solid

% Moisture: 31,0 Date Sampled: 09/07/2009 1355

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID;

**SEA015** 

Preparation:

5035

Lab File ID:

I2109023.D

Dilution:

Prep Batch: 580-50608

1.0

Initial Weight/Volume: 5,709 g

Date Analyzed: Date Prepared:

09/21/2009 1857 09/21/2009 1240 Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene		ND ·		0.00019	0.0013
Isopropylbenzene		ND		0.00019	0.0013
2,2-Dichloropropane		ND		0.00049	0.0013
N-Propylbenzene		0.00020	J	0.00018	0.0013
Trichlorofluoromethane		ND		0.00025	0.0013
4-isopropyitoluene		0.00081	J	0.00039	0.0013
1,3,5-Trimethylbenzene		ND		0.00045	0.0025
cis-1,2-Dichloroethene		ND		0,00016	0.0013
m-Xylene & p-Xylene	•	0.00037	سطلار	0.00020	0.0025 し
Vinyl chloride		ND		0.00019	0.0013
tert-Butylbenzene		ND		0.00043	0.0013
1,4-Dichlorobenzene		ND		0.00050	0.0013
1,3-Dichloropropane		ND ·		0.00028	0.0013

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	112		85 - 120
Toluene-d8 (Surr)	104		85 - 115
Trifluorotoluene (Surr)	92		75 - 125
1,2-Dichloroethane-d4 (Surr)	95		75 - 125 .

M 11-6-09

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-03

G-RS8SED-3

Lab Sample ID:

580-15385-3

Client Matrix: Solid % Moisture: 17.4

Date Sampled: 09/07/2009 1445

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

SEA015

Preparation:

5035

Prep Batch: 580-50608

Lab File ID:

I2109024.D

Dilution:

1.0

Initial Weight/Volume: 3.927 g

Date Analyzed:

09/21/2009 1921

Final Weight/Volume:

0.00053

0.0015

Date Prepared:

09/21/2009 1240

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroeth	ane	ND		0.00014	0.0031
1,2,3-Trichloropropane		ND		0.00056	0.0015
1,2-Dibromo-3-Chlorop	propane	ND		0.00028	0.0031
1,2-Dichloroethane		ND		0.00025	. 0.0015
1,2-Dichloropropane		ND		0.00026	0.0015
Bromoform	·	ND		0.00011	0.0015
Bromomethane		ND		0.00059	0.0015
Carbon tetrachloride		ND		0.00057	0.0015
Chloroethane		ND		0.00041	0.0015
Chloroform		ND		0.00023	0.0015
Chloromethane		ND		0.00027	0.0015
cis-1,3-Dichloropropen	e	ND		0.00018	0.0015
Dichlorobromomethan	e	ND ·		0.00011	0.0015
Ethylene Dibromide		ND		0.00020	0.0015
Hexachlorobutadiene		ND .		0.00052	0,0015
trans-1,3-Dichloroprop	ene	ND .		0.00027	0.0015
Trichloroethene		ND		0.00027	0.0015
1,1,1-Trichloroethane		ND		0.00059	0.0015
Benzene		0.00017	سطالمب.	0.00012	0.0015 仏
Chlorobromomethane		ND		0.00038	0.0015
Tetrachloroethene		ND		0.00016	0.0015
1,1-Dichloroethane		ND		0.00061	0.0015
1,1,2-Trichloroethane		ND		0.00016	0.0015
Dichlorodifluoromethan	ne	ND		0.00030	0.0015
Methylene Chloride	-	ND		0.00030	0.0015
n-Butylbenzene		ND		0.00048	0.0015
1,2,4-Trimethylbenzene	9	ND		0.00051	0.0015
2-Chlorotoluene		ND		0.00023	0.0015
Chlorodibromomethane	2	ND	-	0.00021	0.0015
Dibromomethane		ND		0.00016	0.0015
1,1-Dichloropropene		ND		0.00060	0.0015
Toluene		0.00024	سطله	0.00013	0.0015 tl
1,2,4-Trichlorobenzene		ND	ن حد	0.00059	0.0031
o-Xylene		0.900098	JB-	0.000082	0.0015 LL
Chlorobenzene		_0.0011	HB	0.00027	0.0015 UL
1.3-Dichlorobenzene		ND	<b></b>	0.00059	0.0015
Naphthalene		ND		0.00037	0.0077
Styrene		-ND-		0.00037	0:0077
4-Chiorotoluene		ND		0.00060	0.0015
trans-1,2-Dichloroethen	18	ND		0.00044	0.0015
Bromobenzene		ND		0.00024	0.0015
1,2,3-Trichlorobenzene		0.00044	س <del>ط</del> لد	0.00027	0.0013 0.0031 <b>L</b> A
1.1-Dichloroethene		ND	فالملاسد	0.00021	0.0037
1,2-Dichlorobenzene		ND		0.00054	0.0077
1,1,1,2-Tetrachloroetha	ne	ND ND		0.00054	0.0015
1,1,1,2-1etracitioroetha	110	NU		0.00013	0,0015

sec-Butylbenzene

ND

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-03

Lab Sample ID:

580-15385-3

Client Matrix:

Solid

% Moisture:

17.4

Date Sampled: 09/07/2009 1445

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

**SEA015** 

Preparation:

5035

Prep Batch: 580-50608

Lab File ID:

I2109024.D

Dilution:

1.0

Initial Weight/Volume: 3.927 g

Date Analyzed:

Date Prepared:

09/21/2009 1921 09/21/2009 1240 Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier -	MDL	RL
Ethylbenzene	and the second second second second second second second second second second second second second second seco	ND		0.00023	0.0015
Isopropylbenzene		ND		0.00023	0.0015
2.2-Dichloropropane		ND		0.00059	0.0015
N-Propylbenzene		ND		0.00022	0.0015
Trichlorofluoromethane		ND		0.00030	0.0015
4-Isopropyitoluene		ND		0.00048	0.0015
1,3,5-Trimethylbenzene		ND		0.00054	0.0031
cis-1,2-Dichloroethene		ND		0.00020	0.0015
m-Xylene & p-Xylene		ND	1	0.00025	0.0031
Vinyl chloride		ND		0.00023	0.0015
tert-Butylbenzene		ND		0.00052	0.0015
1,4-Dichlorobenzene		ND		0.00061	0.0015
1,3-Dichloropropane		ND		0.00034	0.0015

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	100		85 - 120
Toluene-d8 (Surr)	. 101		85 - 115
Trifluorotoluene (Surr)	105		75 <b>-</b> 125
1,2-Dichloroethane-d4 (Surr)	97		75 <b>-</b> 125

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Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-04

RS8-SED &

Lab Sample ID:

580-15385-4

Client Matrix: Solid

% Moisture: 33.1 Date Sampled: 09/07/2009 1450

Date Received: 09/11/2009 0940

#### **8260B Volatile Organic Compounds (GC/MS)**

Method:

8260B

Analysis Batch: 580-50612

Instrument ID: Lab File ID:

**SEA015** 

Preparation: Dilution:

5035

Prep Batch: 580-50608

Initial Weight/Volume: 6.252 g

12109025.D

Date Analyzed:

1.0

Final Weight/Volume:

0.00041

0.0012

Date Prepared:

09/21/2009 1945 09/21/2009 1240

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroethane		ND		0.00011	0.0024
1,2,3-Trichloropropane		ND		0.00043	0.0012
1,2-Dibromo-3-Chloropropa	ine	ND		0.00022	0.0024
1,2-Dichloroethane		ND ·		0.00019	0.0012
1,2-Dichloropropane		ND		0.00020	0.0012
Bromoform		ND		0.000086	0.0012
Bromomethane		ND		0.00046	0.0012
Carbon tetrachloride		ND		0.00044	0.0012
Chloroethane		ND		0.00032	0.0012
Chloroform		ND		0.00018	0.0012
Chloromethane		ND		0.00021	0,0012
cis-1,3-Dichloropropene		ND		0.00014	0.0012
Dichlorobromomethane		ND		0.000088	0.0012
Ethylene Dibromide		ND		0.00016	0.0012
Hexachlorobutadiene		ND		0.00040	0.0012
trans-1,3-Dichloropropene		ND		0.00021	0.0012
Trichloroethene		ND		0.00021	0.0012
1,1,1-Trichloroethane	,	ND		0.00046	0.0012
Benzene		0.00019	413	0.000094	0.0012 U
Chlorobromomethane		ND		0.00030	0.0012
Tetrachloroethene		ND		0.00012	0.0012
1,1-Dichloroethane		ND		0.00047	0.0012
1,1,2-Trichloroethane		ND		0.00012	0.0012
Dichlorodifluoromethane		ND		0.00023	0.0012
Methylene Chloride		ND		0.00023	0.0012
n-Butylbenzene		ND		0.00038	0.0012
1,2,4-Trimethylbenzene		ND		0.00040	0.0012
2-Chlorotoluene		ND		0.00017	0.0012
Chlorodibromomethane		ND		0.00016	0.0012
Dibromomethane		ND		0.00013	0.0012
1,1-Dichloropropene		ND		0.00046	0.0012
Foluene		0.00037	سكالمد	0.00010	0.0012 0.0012 U
1,2,4-Trichlorobenzene		ND ND		0.00046	0.0024
p-Xylene		ND .		0.00046	0.0012
Chlorobenzene		0.00080	<i>⊸</i> هلا	0.00021	0.0012 <b>(</b> (
1,3-Dichlorobenzene		ND	<del>ک</del> ملا_	0.00021	0.0012
vaphthalene		ND		0.00049	0.0060
Styrene		ND		0:00029	0:0012
I-Chlorotoluene		ND		0.00036	0.0012
rans-1,2-Dichloroethene		ND ND		0.00034	0.0012
Promobenzene		ND ND		0.00034	0.0012
sromobenzene 1,2,3-Trichlorobenzene	•	ND ND		0.00019	0.0012
r,z,3-rrichlorobenzene I.1-Dichloroethene					0.0024
•		ND ND		0.00017	•
,2-Dichlorobenzene		ND ND		0.00042	0.0012
,1,1,2-Tetrachloroethane		ND		0.00010	0.0012

TestAmerica Tacoma

sec-Butylbenzene

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ND

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-04

Lab Sample ID:

580-15385-4

Client Matrix:

Solid

% Moisture: 33.1 Date Sampled: 09/07/2009 1450

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

**SEA015** 

Preparation:

5035

Lab File ID:

I2109025.D

Dilution:

1.0

Prep Batch: 580-50608

Initial Weight/Volume: 6.252 g

Date Analyzed:

Final Weight/Volume:

Date Prepared:

09/21/2009 1945 09/21/2009 1240

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene		ND		0.00018	0.0012
Isopropylbenzene		ND		0.00018	0.0012
2,2-Dichloropropane		ND		0.00046	0.0012
N-Propylbenzene		ND		0.00017	0.0012
Trichlorofluoromethane		ND		0.00023	0.0012
4-isopropyitoluene		0.00078	j	0.00037	0.0012
1,3,5-Trimethylbenzene		ND		0.00042	0.0024
cis-1,2-Dichloroethene		ND		0.00015	0.0012
m-Xylene & p-Xylene		0.00020	مطلا	0.00019	0.0024 人
Vinyl chloride		ND		0.00018	0.0012
tert-Butylbenzene		ND		0.00040	0.0012
1,4-Dichlorobenzene		ND		0.00047	0.0012
1,3-Dichloropropane		ND		0.00026	0.0012

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	105		85 - 120
Toluene-d8 (Surr)	102		85 - 115
Trifluorotoluene (Surr)	89		75 - 125
1,2-Dichloroethane-d4 (Surr)	96		75 - 125

11-6-09

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-05

RS7-SED-Ø

Lab Sample ID:

580-15385-5

Client Matrix:

Solid

% Moisture:

Date Sampled: 09/07/2009 1530

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

30.8

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

SEA015

Preparation:

Lab File ID:

12109026.D

5035

Prep Batch: 580-50608

Dilution:

1.0

Initial Weight/Volume: 5.082 g

Date Analyzed: Date Prepared: 09/21/2009 2009 09/21/2009 1240 Final Weight/Volume:

5 mL

Analyte -	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroeth		ND		0.00013	0.0028
1,2,3-Trichloropropane		ND		0.00051	0.0014
1,2-Dibromo-3-Chloro	propane	ND		0.00026	0.0028
1,2-Dichloroethane		ND		0.00023	0.0014
1,2-Dichloropropane		ND	•	0.00024	0.0014
Bromoform		ND		0.00010	0.0014
Bromomethane		ND	•	0.00055	0.0014
Carbon tetrachloride		ND		0.00053	0.0014
Chloroethane		ND		0.00038	0.0014
Chloroform		ND		0.00021	0.0014
Chloromethane	•	ND	•	0.00025	0.0014
cis-1,3-Dichloroproper	ie .	ND		0.00017	0.0014
Dichlorobromomethan		ND		0.00011	0.0014
Ethylene Dibromide	-	ND		0.00019	0.0014
Hexachlorobutadiene		ND		0.00048	0.0014
trans-1,3-Dichloroprop	ene	ND		0.00025	0.0014
Trichloroethene		ND ,	•	0.00025	0.0014
1,1,1-Trichloroethane		ND		0.00055	0.0014
Benzene		0.00033	<i>کال</i> د	0.00011	0.0014 以
Chlorobromomethane		ND ND		0.00035	0.0014
Tetrachloroethene		ND		0.00035	0.0014
1,1-Dichloroethane		ND		0.00056	0.0014
1.1.2-Trichloroethane		ND ND		0.00030	0.0014
Dichlorodifluoromethar	30	ND ND		0.00014	0.0014
Methylene Chloride	is .	ND ND		0.00027	0.0014
n-Butylbenzene		ND		0.00027	0.0014
1,2,4-Trimethylbenzen	_	ND ND		0.00045	0.0014
2-Chlorotoluene	<b>.</b>	ND ND		0.00047	0.0014
Chlorodibromomethane		ND ND		0.00021	
Dibromomethane	3				0.0014
		ND		0.00015	0.0014
1,1-Dichloropropene		ND	' <b></b> 4	0.00055	0.0014
Toluene	•	0.0018		0.00012	0.0014
1,2,4-Trichlorobenzene	, .	ND	1.5~	0.00055	0.0028
o-Xylene		0.000098	-H	0.000075	0.0014 4
Chlorobenzene		0.00080	سكلا	0.00025	0.0014 LL
1,3-Dichlorobenzene		ND		0.00054	0.0014
Naphthalene		ND		0.00034	0.0071
-Styrene	• '	ND		0.00045	0.0014
4-Chiorotoluene		ND		0.00055	0.0014
trans-1,2-Dichloroether	ië	ND		0.00041	0.0014
Bromobenzene		ND		0.00022	0.0014
1,2,3-Trichlorobenzene		ND	•	0.00024	0.0028
1,1-Dichloroethene		ND		0.00020	0.0071
1,2-Dichlorobenzene		ND		0.00050	0.0014
1,1,1,2-Tetrachloroetha	ne	ND		0.00012	0.0014
sec-Butylbenzene		ND		0.00049	0.0014

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-05

Lab Sample ID:

Client Matrix:

Solid

580-15385-5

% Moisture: 30.8 Date Sampled: 09/07/2009 1530

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method: Preparation: 8260B

Analysis Batch: 580-50612

Instrument ID:

**SEA015** 

Dilution:

5035

Prep Batch: 580-50608

Lab File ID: Initial Weight/Volume: 5.082 g

12109026.D

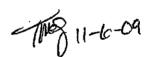
1.0

Date Analyzed: Date Prepared:

09/21/2009 2009 09/21/2009 1240 Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethy/benzene		ND		0.00021	0.0014
Isopropylbenzene		ND		0.00021	0.0014
2,2-Dichloropropane		ND		0.00055	0.0014
N-Propylbenzene		ND		0.00020	0.0014
Trichlorofluoromethane		ND		0.00028	0.0014
4-isopropyltoluene		0.00097	J	0.00044	0.0014
1,3,5-Trimethylbenzene	•	ND .		0.00050	0.0028
cis-1,2-Dichloroethene		ND		0.00018	0.0014
m-Xylene & p-Xylene		_0.00024	سطلد	0.00023	0.0028 ん
Vinyl chloride		ND		0.00021	0.0014
tert-Butylbenzene		ND		0.00048	0.0014
1,4-Dichlorobenzene	•	ND		0.00056	0.0014
1,3-Dichloropropane		ND		0.00031	0.0014

Surrogate	%Rec	Qualifier	Acceptance Limits	
4-Bromofluorobenzene (Surr)	103	·	85 - 120	,
Toluene-d8 (Surr)	100		85 <b>- 11</b> 5	
Trifluorotoluene (Surr)	97		75 - 125	
1,2-Dichloroethane-d4 (Surr)	95		75 - 125	



Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-06

RS-7-SED-4

Lab Sample ID:

580-15385-6

Client Matrix:

Solid

% Moisture: 18.2 Date Sampled: 09/07/2009 1525

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

instrument ID:

SEA015

Preparation:

5035

Prep Batch: 580-50608

Lab File ID:

I2109027.D

Dilution:

1.0

Initial Weight/Volume: 5.803 g

Date Analyzed:

09/21/2009 2033

Date Prepared:

09/21/2009 1240

Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroeth		ND		0.000093	0.0021
1,2,3-Trichloropropane		ND		0.00038	0.0011
1,2-Dibromo-3-Chlorop	propane	ND .		0.00019	.0.0021
1,2-Dichloroethane		ND		0.00017	0.0011
1,2-Dichloropropane		ND		0.00018	0.0011
Bromoform		ND		0.000076	0.0011
Bromomethane		ND	•	0.00041	0.0011
Carbon tetrachloride		ND		0.00039	0.0011
Chloroethane	•	ND		0.00028	0.0011
Chloroform	•	ND		0.00016	0.0011
Chloromethane		ND		0.00019	0.0011
cis-1,3-Dichloropropen	e	ND		0.00012	0.0011
Dichlorobromomethane	÷ '	ND		0.000078	0.0011
Ethylene Dibromide		ND		0.00014	0.0011
Hexachlorobutadiene		ND		0.00035	0.0011
trans-1,3-Dichloroprope	ene	ND		0.00019	0.0011
Trichloroethene		ND		0.00019	0.0011
1,1,1-Trichloroethane		ND		0.00040	0.0011
Benzene		0.00024	_1_B	0.000083	0.0011 U
Chlorobromomethane		ND		0.00026	0.0011
Tetrachloroethene		ND		0.00011	0.0011
1,1-Dichloroethane		ND		0.00041	0.0011
1.1.2-Trichloroethane		ND		0.00011	0.0011
Dichlorodifluoromethan	e	ND		0.00020	0.0011
Methylene Chloride		ND		0.00020	0.0011
n-Butylbenzene		ND		0.00033	0.0011
1,2,4-Trimethylbenzene	•	ND	*	0.00035	0.0011
2-Chlorotoluene		ND		0.00015	0.0011
Chlorodibromomethane	•	ND		0.00014	0.0011
Dibromomethane	•	ND		0.00011	0.0011
1,1-Dichloropropene		ND		0.00041	0.0011
Toluene		0.00034	ستعجشسB ا	0.000089	0.0011 LL
1,2,4-Trichlorobenzene		ND		0.00040	0.0021
o-Xviene		0.000092	JB	0.000056	0.0011U
Chlorobenzene		0.00090	J.B.	0.00019	0.0011
1,3-Dichlorobenzene		ND	ب سو	0.00040	0.0011
Naphthalene		ND		0.00025	0.0053
Styrene		ND		0,00033	0.0011
4-Chlorotoiuene		ND		0.00041	0.0011
trans-1,2-Dichloroethen	e	ND		0.00030	0.0011
Bromobenzene		ND	,	0.00033	0.0011
1,2,3-Trichlorobenzene		ND		0.00018	0.0021
1,1-Dichloroethene		ND		0.00015	0.0053
1.2-Dichlorobeπzene		ND		0.00013	0.0003
1,1,1,2-Tetrachioroetha	ne	ND	•	0.000092	0.0011
sec-Butylbenzene		ND .		0.00036	0.0011
505-DutyiosiiZerie		14D ,		V.00030	0.0011

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

**Client Sample ID:** 

SSI0049-06

Lab Sample ID:

580-15385-6

Client Matrix:

Solid

% Moisture:

18.2

Date Sampled: 09/07/2009 1525

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

SEA015

Preparation:

5035

Prep Batch: 580-50608

Lab File ID:

12109027.D

Dilution:

1.0

Initial Weight/Volume: 5.803 g

Date Analyzed:

Date Prepared:

09/21/2009 2033 09/21/2009 1240 Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	ND		0.00016	0.0011
isopropylbenzene		ND		0.00016	0.0011
2,2-Dichloropropane		ND .		0.00040	0.0011
N-Propylbenzene		ИD		0.00015	0.0011
Trichlorofluoromethane		ND		0.00021	0.0011
4-isopropyltoluene		ND		0.00033	0.0011
1,3,5-Trimethylbenzene		ND		0.00037	0.0021
cis-1,2-Dichloroethene		ND		0.00013	0.0011
m-Xylene & p-Xylene		0.0 <del>002</del> 0	سلحه تظلر	0.00017	0.0021 در
Vinyl chloride		ND		0.00016	0.0011
tert-Butylbenzene		ND		0.00035	0.0011
1,4-Dichlorobenzene		ND		0.00042	0.0011
1,3-Dichloropropane		ND		0.00023	0.0011

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	. 102		85 - 120
Toluene-d8 (Surr)	101		85 <b>-</b> 115
Trifluorotoluene (Surr)	130	X	75 <b>-</b> 125
1,2-Dichloroethane-d4 (Surr)	103		75 <b>- 12</b> 5

M 11-6-09

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-07

RSZ-SED3

Lab Sample ID:

580-15385-7

Client Matrix: Solid

% Moisture:

Date Sampled: 09/07/2009 1615

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

**SEA015** 

Preparation:

5035

Prep Batch: 580-50608

Lab File ID:

I2109028.D

Dilution:

1.0

Initial Weight/Volume: 2.906 g

Date Analyzed: Date Prepared: 09/21/2009 2056 09/21/2009 1240

Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroethane		ND		0.00019	0.0044
1,2,3-Trichloropropane		ND		0.00080	0.0022
1,2-Dibromo-3-Chloropro	oane	ND		0.00040	0.0044
1,2-Dichloroethane		ND		0.00035	0.0022
1,2-Dichloropropane		ND		0.00038	0.0022
Bromoform		ND		0.00016	0.0022
Bromomethane		ND		0.00085	0.0022
Carbon tetrachloride		ND		0.00082	0.0022
Chloroethane		ND		0.00059	0.0022
Chloroform		ND ·		0.00033	0.0022
Chloromethane		ND		0.00039	0.0022
cis-1,3-Dichloropropene		ND		0.00026	0.0022
Dichlorobromomethane		ND		0.00016	0.0022
Ethylene Dibromide	•	ND		0.00029	0.0022
Hexachlorobutadiene		ND		0.00074	0.0022
trans-1,3-Dichloropropene	•	ND		0.00039	0.0022
Trichloroethene		ND		0.00039	0.0022
1,1,1-Trichloroethane		ND		0.00085	0.0022
Benzene		0.09056	JB	0.00017	0.0022 LL
Chlorobromomethane		ND		0.00055	0.0022
Tetrachloroethene		ND		0.00023	0.0022
1.1-Dichloroethane		ND		0.00025	0.0022
1,1,2-Trichloroethane		ND		0.00022	0.0022
Dichlorodifluoromethane		ND		0.00042	0.0022
Methylene Chloride	• •	ND		0.00043	0.0022
n-Butylbenzene		ND		0.00069	0.0022
1,2,4-Trimethylbenzene		ND		0.00073	0.0022
2-Chlorotoluene		ND		0.00073	0.0022
Chlorodibromomethane		ND		0.00030	0.0022
Dibromomethane		ND		0.00023	0.0022
1,1-Dichloropropene		ND		0.00026	0.0022
Toluene		0.09066	TB-	0.00019	0.0022 (
1,2,4-Trichlorobenzene		ND		0.00085	0.0044
o-Xylene		0.00017	سطلعه	0.00012	0.0022 <b>U</b>
Chlorobenzene		0.0014	-18	0.00039	0.0022 <b>L</b> L
1.3-Dichlorobenzene		ND ND	نبا محسد	0.00084	0.0022
Naphthalene		ND		0.00053	0.011
Styrene		ND		0.00070	0.0022
4-Chlorotoluene		ND		0.00085	0.0022
trans-1.2-Dichloroethene		ND		0.00063	0.0022
Bromobenzene		ND		0.00035	0.0022
1,2,3-Trichlorobenzene		ND		0.00038	0.0022
1,1-Dichloroethene		ND	•	0.00038	0.0044
•		ND ND		0.00031	0.0022
1,2-Dichlorobenzene		ND ND			
1,1,1,2-Tetrachloroethane	•			0.00019	0.0022
sec-Butylbenzene		ΝĎ		0.00075	0.0022

TestAmerica Tacoma

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Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-07

Lab Sample ID:

580-15385-7

Client Matrix:

Solid

% Moisture:

22.1

Date Sampled: 09/07/2009 1615

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

**SEA015** 

Preparation: Dilution:

5035

Prep Batch: 580-50608

Lab File ID:

I2109028.D

1.0

Initial Weight/Volume: 2.906 g

Date Analyzed:

09/21/2009 2056

Final Weight/Volume: 5 mL

Date Prepared:

09/21/2009 1240

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene	ويستهيم وجوز إيداد ووستحمل فاستنده وللمناح ليويان لاستنوجها ويسانها المتأودي الأكار المسابقة المستناح	ND		0.00033	0.0022
isopropylbenzene		ND ·		0.00033	0.0022
2,2-Dichloropropane		ND		0.00085	0.0022
N-Propylbenzene		ND .		0.00032	0.0022
Trichlorofluoromethane		ND		0.00043	0.0022
4-Isopropyltoluene		0.0015	j	0.00069	0.0022
1,3,5-Trimethylbenzene		ND		0.00078	0.0044
cis-1,2-Dichloroethene		ND		0.00028	0.0022
m-Xylene & p-Xylene		ND		0.00035	0.0044
Vinyl chloride		ND		0.00033	0.0022
tert-Butylbenzene		ND		0.00074	0.0022
1,4-Dichlorobenzene		ND		0.00088	0.0022
1,3-Dichloropropane	•	ND		0.00048	0.0022
Surrogate .		%Rec	Qualifier	Accentan	ce l imits

Surrogate	%Rec	Qualifier	Acceptance Lim
4-Bromofluorobenzene (Surr)	106		85 - 120
Toluene-d8 (Surr)	101		85 - 115
Trifluorotoluene (Surr)	<b>1</b> 01		75 - 125
1,2-Dichloroethane-d4 (Surr)	98		75 <b>- 12</b> 5

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SS10049-08

RS-Z-SEDØ

Lab Sample ID:

580-15385-B

Client Matrix:

Solid

% Moisture: 29.1 Date Sampled: 09/07/2009 1620 Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method: Preparation: 8260B

5035 1.0

Dilution: Date Analyzed: Date Prepared:

09/21/2009 2120 09/21/2009 1240 Analysis Batch: 580-50612

Prep Batch: 580-50608

Instrument ID: Lab File ID:

SEA015 I2109029.D

Initial Weight/Volume: 6.099 g

Final Weight/Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	·MDL	RL
1,1,2,2-Tetrachloroethane		ND		0.00010	0.0023
1,2,3-Trichloropropane		ND		0.00042	0.0012
1,2-Dibromo-3-Chłoropropa	ane	ND		0.00021	0.0023
1,2-Dichloroethane		ND		0.00018	0.0012
1,2-Dichloropropane		ND		0.00020	0.0012
Bromoform		ND		0.000083	0.0012
Bromomethane		ND		0.00045	0.0012
Carbon tetrachloride		ND		0.00043	0.0012
Chloroethane		ND ·		0.00031	0.0012
Chloroform		ND		0.00017	0.0012
Chloromethane		0.00080	J T	0.00020	0.0012
cis-1,3-Dichloropropene		ND	•	0.00014	0.0012
Dichlorobromomethane		ND		0.000086	0.0012
Ethylene Dibromide		ND		0.00015	0.0012
lexachlorobutadiene		ND		0.00039	0.0012
rans-1,3-Dichloropropene		ND		0.00021	0.0012
Frichloroethene		ND		0.00020	0.0012
I,1,1-Trichloroethane		ND		0.00044	0.0012
Benzene		0.00062	سكر طلد	0.000091	0.0012 🗘
Chlorobromomethane		ND		0.00029	0.0012
etrachloroethene		ND		0.00012	0.0012
,1-Dichloroethane		ND		0.00045	0.0012
,1,2-Trichloroethane		ND		0.00012	0.0012
Dichlorodifluoromethane		ND		0.00022	0.0012
/lethylene Chloride		ND		0.00022	0.0012
-Butylbenzene		ND		0.00036	0.0012
,2,4-Trimethylbenzene		ND		0.00038	0.0012
-Chlorotoluene		ND		0.00017	0.0012
hlorodibromomethane		ND		0.00016	0.0012
Dibromomethane	•	ND		0.00012	0.0012
,1-Dichloropropene		ND		0.00045	0.0012
oluene		0.00057	J.B.	0.000098	0.0012 LL
,2,4-Trichlorobenzene		ND	-	0.00044	0.0023
-Xylene		0.00013	-LB	0.000061	0.0012 نا
hiorobenzene	STET		B	0.00021	-0.0012 LL
.3-Dichlorobenzene	2121	ND "O		0.00044	0.0012
laphthalene		0.09044	مسسطا	0.00028	0.0058 U.
tyrene		ND		-0:00036	0.0012
-Chlorotoluene		ND		0.00045	0.0012
ans-1,2-Dichloroethene		ND		0.00033	0.0012
romobenzene		ND		0.00018	0.0012
2,3-Trichlorobenzene		ND		0.00020	0.0023
1-Dichloroethene		ND		0.00016	0.0058
,2-Dichlorobenzene		ND		0.00040	0.0038
.1.1.2-Tetrachloroethane		ND		0.00010	0.0012
·   ·   =     •   •   •   •   •   •   •   •				0,000,10	J.00 12

TestAmerica Tacoma

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Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-08

Lab Sample ID:

580-15385-8

Client Matrix:

Solid

% Moisture: 29.1

Date Sampled: 09/07/2009 1620

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50612

Instrument ID:

**SEA015** 

Preparation:

5035

Prep Batch: 580-50608

Lab File ID:

12109029.D

Dilution:

1.0

Initial Weight/Volume: 6.099 g

Date Analyzed: Date Prepared: 09/21/2009 2120 09/21/2009 1240 Final Weight/Volume:

5 mL

Limits

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL .
Ethylbenzene		ND		0.00017	0.0012
sopropylbenzene		ND		0.00017	0.0012
2,2-Dichloropropane		ND		0.00044	0.0012
l-Propylbenzene		ND		0.00017	0.0012
richlorofluoromethane		ND		0.00023	0.0012
-Isopropyltoluene		0.0072	J	0.00036	0.0012
,3,5-Trimethylbenzene		ND		0.00041	0.0023
is-1,2-Dichloroethene		ND		0.00015	0.0012
n-Xylene & p-Xylene		_0_0 <del>0039</del>	J.B. J	0.00018	0.0023
inyl chloride		ND		0.00017	0.0012
ert-Butylbenzene		ND		. 0.00039	0.0012
,4-Dichlorobenzene		ND	•	0.00046	0.0012
,3-Dichloropropane		ND		0.00025	0.0012

Surrogate	%Rec	Qualifier	Acceptance
4-Bromofluorobenzene (Surr)	103		85 - 120
Toluene-d8 (Surr)	102		85 - 115
Trifluorotoluene (Surr)	166	×	75 - 125
1,2-Dichloroethane-d4 (Surr)	100		75 - 125

PS 11-6-09

Job Number: 580-15385-1 Client: TestAmerica Laboratories, Inc.

Client Sample ID:

SSI0049-10

RS5-SEDØ

Lab Sample ID:

580-15385-10

Client Matrix:

Solid

% Moisture: 29.7 Date Sampled: 09/08/2009 0830

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

SEA015

Preparation:

Lab File ID:

I2209018.D

Dilution:

5035

Prep Batch: 580-50646

Initial Weight/Volume: 5.70 g

mL

Date Analyzed:

1.0

Date Prepared:

09/22/2009 1546 09/22/2009 0732

Final	Weight/Volume:	5

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL	
1,1,2,2-Tetrachloroeth	ane	ND		0.00011	0.0025	
1,2,3-Trichloropropane	3	ND		0.00045	0.0012	
1,2-Dibromo-3-Chloro	propane	ND .	•	0.00023	0.0025	
1,2-Dichloroethane		ND		0.00020	0.0012	
1,2-Dichloropropane		ND		0.00021	0.0012	
Bromoform		ND		0.000090	0.0012	
Bromomethane		ND		0.00048	0.0012	
Carbon tetrachloride		ND		0.00046	0.0012	
Chloroethane		ND		0.00033	0.0012	
Chloroform		ND		0.00018	0.0012	
Chloromethane		ND		0.00022	0.0012	
cis-1,3-Dichloropropen	ne	ND		0.00015	0.0012	
Dichlorobromomethan	e	ND		0.000092	0.0012	
Ethylene Dibromide		ND		0.00016	0.0012	
Hexachlorobutadiene		ND		0.00042	0.0012	
trans-1,3-Dichloroprop	ene	ND		0.00022	0.0012	
Trichloroethene		ND		0.00022	0.0012	
1,1,1-Trichloroethane		ND .		0.00048	0.0012	
Велгеле		0.00025	سط ا	0.000099	0.0012 (L	
Chlorobromomethane		ND		0.00031	0.0012	
Tetrachloroethene		ND		0.00013	0.0012	
1.1-Dichloroethane		ND		0.00049	0.0012	
1,1,2-Trichloroethane		ND		0.00013	0.0012	
Dichlorodifluoromethar	ne .	ND		0.00024	0.0012	
Methylene Chloride		ND		0.00024	0.0012	
n-Butylbenzene		ND		0.00039	0.0012	
1,2,4-Trimethylbenzene	e	ND		0.00041	0.0012	
2-Chiorotoluene		ND		0.00018	0.0012	1
Chlorodibromomethane	9	ND		0.00017	0.0012	)
Dibromomethane		ND		0,00013	0.0012	
1,1-Dichloropropene		ND		0.00048	0.0012	
Toluene		0.09031	B	0.00011	0.0012 U	
1,2,4-Trichlorobenzene	<u> </u>	ND		0.00048	0.0025	
o-Xylene		ND		0.000066	0.0012	
Chlorobenzene		0.00046	J.B	0.00022	0.0012 人	
1,3-Dichlorobenzene		ND	<u>-</u>	0.00047	0.0012	
Naphthalene		ND		0.00030	0.0062	
- Styrene		ND		0:00039	0:0012	
4-Chlorotoluene		ND		0.00048	0.0012	
trans-1,2-Dichloroether	ne .	ND		0.00036	0.0012	
Bromobenzene	•	ND		0.00020	0.0012	
1,2,3-Trichlorobenzene		ND		0.00021	0.0025	
1,1-Dichloroethene		ND		0.00021	0.0062	
1,2-Dichlorobenzene	•	ND		0.00043	0.0012	
1,1,1,2-Tetrachloroetha	ine	ND		0.00011	0.0012	
sec-Butylbenzene	<del>-</del>	ND		0.00043	0.0012	
,					0.00.2	

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-10

Lab Sample ID:

580-15385-10

Client Matrix:

Solid

% Moisture:

29.7

Date Sampled: 09/08/2009 0830

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

SEA015

Preparation:

5035

Prep Batch: 580-50646

Lab File ID:

12209018,D

Dilution:

1.0

initial Weight/Volume: 5.70 g

Date Analyzed: Date Prepared: 09/22/2009 1546 09/22/2009 0732 Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene		ND		0.00019	0.0012
Isopropylbenzene		ND		0.00019	0.0012
2,2-Dichioropropane		ND		0.00048	0.0012
N-Propylbenzene		ND		0.00018	0.0012
Trichlorofluoromethane		ND		0.00024	0.0012
4-isopropyltoluene		ND		0.00039	0.0012
1,3,5-Trimethylbenzene		ND		0.00044	0.0025
cis-1,2-Dichloroethene		ND		0.00016	0.0012
n-Xylene & p-Xylene		ND		0.00020	0.0025
/inyl chloride		ND		0.00018	0.0012
ert-Butylbenzene		ND		0.00042	0.0012
,4-Dichlorobenzene		ND		0.00050	0.0012
1,3-Dichloropropane		ND		0.00027	0.0012
Surrogate		%Rec	Qualifier	Acceptan	ce Limits
-Bromofluorobenzene (Surr	. 1. Tage	103		85 - 120	
oluene-d8 (Surr)	,	99		85 - 115	
rifluorotoluene (Surr)		105		75 - 125	
,2-Dichloroethane-d4 (Surr)		106		75 - 125	

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-11

G-RS 5D-SED-Ø

Lab Sample ID:

580-15385-11

Client Matrix:

Solid

Date Sampled: 09/08/2009 0835 Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

29.4

Method:

Dilution:

8260B

5035

Preparation: 1.0

Date Analyzed: D

09/22/2009 1610

Analysis Batch: 580-50716

% Moisture:

Prep Batch: 580-50646

Instrument ID:

**SEA015** 

Lab File ID:

12209019.D

Initial Weight/Volume: 5.44 g

Final Weight/Volume:

Date Prepared:	09/22/2009	0732
A = =  d=	D	14 K O.

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroethan	В	ND		0.00011	0.0026
1,2,3-Trichloropropane		ND .		0.00047	0.0013
1,2-Dibromo-3-Chloropro	pane	ND		0.00024	0.0026
1,2-Dichloroethane		ND		0.00021	0.0013
1,2-Dichloropropane		ND		0.00022	0.0013
Bromoform		ND		0.000094	0.0013
Bromomethane		ND '		. D.00050	0.0013
Carbon tetrachloride		ND		0.00048	0.0013
Chloroethane		ND	•	0.00035	0.0013
Chloroform		ND		0.00019	0.0013
Chloromethane		ND		0.00023	0.0013
cis-1,3-Dichloropropene		. ND		0.00015	0.0013
Dichlorobromomethane		ND		0.000096	0.0013
Ethylene Dibromide		ND		0.00017	0.0013
Hexachlorobutadiene	•	ND		0.00044	0.0013
trans-1,3-Dichloropropend	<b>e</b> .	ND		0.00023	0.0013
Trichloroethene		ND .		0.00023	0.0013
1,1,1-Trichloroethane		ND		0.00050	0.0013
Benzene	•	_0.00021	المستطلب	0.00010	0.0013 LL
Chlorobromomethane		ND		0.00032	0.0013
Tetrachioroethene		ND		0.00013	0.0013
1,1-Dichloroethane		ND		0.00051	0.0013
1,1,2-Trichloroethane		ND	•	0.00013	0.0013
Dichlorodifluoromethane		ND		0.00025	0.0013
Methylene Chloride		ND		0.00025	0.0013
n-Butylbenzene		ND		0.00041	0.0013
1,2,4-Trimethylbenzene		ND		0.00043	0.0013
2-Chiorotoluene	•	ND		0.00019	0.0013
Chlorodibromomethane		ND		0.00018	0.0013
Dibromomethane		ND	•	0.00014	0.0013
1,1-Dichloropropene	-	ND		0.00051	0.0013
Toluene		_0.00051	ملاسطلي	0.00011	0.0013 LL
1,2,4-Trichlorobenzene		ND		0.00050	0.0026
o-Xylene		0.00018	ال سلا	0.000069	0.0013
Chlorobenzene		_0.0012"	JB3-	0.00023	0.0013 <b>LL</b>
1,3-Dichlorobenzene		ND	•	0.00049	0.0013
Naphthalene		ND	•	0.00031	0.0065
-Styrene	<u>.</u>	ND		0:00041	0.0013
4-Chlorotoluene	•	ND		0.00050	0.0013
trans-1,2-Dichloroethene		· ND		0.00037	0.0013
Bromobenzene	•	ND .		0.00020	0.0013
1,2,3-Trichlorobenzene		ND		0.00022	0.0026
1,1-Dichloroethene		ND		0.00018	0.0065
1,2-Dichlorobenzene		ND		0.00045	0.0013
1,1,1,2-Tetrachloroethane		ND		0.00011	0.0013
sec-Butylbenzene		ND		0.00044	0.0013

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-11

Lab Sample ID:

580-15385-11

Client Matrix:

Solid

% Moisture: 29.4

Date Sampled: 09/08/2009 0835

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

**SEA015** 

Preparation:

5035

Prep Batch: 580-50646

Lab File ID:

I2209019.D

Dilution:

1.0

Initial Weight/Volume: 5,44 g

Date Analyzed:

09/22/2009 1610

Final Weight/Volume: 5 mL

Date Prepared:	09/22/2009	0732

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL	
Ethylbenzene		ND		0.00019	0.0013	
Isopropylbenzene		ND		0.00019	0.0013	
2,2-Dichloropropane		ND		0.00050	0.0013	
N-Propylbenzene		ND		0.00019	0.0013	
Trichlorofluoromethane		ND		0.00025	0.0013	
4-Isopropyltoluene		ND		0.00040	0.0013	
1,3,5-Trimethylbenzene		ND		0.00046	0.0026	
cis-1,2-Dichloroethene		ND		0.00017	0.0013	
m-Xylene & p-Xylene		0.00022	N 2	0.00021	0.0026	
Vinyl chloride		ND	€'	0.00019	0.0013	
tert-Butylbenzene		ND		0.00044	0.0013	
1,4-Dichlorobenzene	-	ND		0.00052	0.0013	
1,3-Dichloropropane		ND		0.00029	0.0013	
Surrogate		%Rec	Qualifier	Acceptan	ice Limits	
	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>				والمراب المناسبة والمناز والمناز والمرابع والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والمناز والم	

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	103		85 - 120
Toluene-d8 (Surr)	97		85 - 115
Trifluorotoluene (Surr)	147	Χ	75 - 125
1,2-Dichloroethane-d4 (Surr)	108		75 - 125

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-12

RS 5-SED4

Prep Batch: 580-50646

Lab Sample ID:

580-15385-12

Client Matrix:

Solid

% Moisture: 18.0 Date Sampled: 09/08/2009 0845

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

Dilution:

Preparation:

8260B

5035

1.0

Date Analyzed: Date Prepared:

09/22/2009 1634 09/22/2009 0732 Analysis Batch: 580-50716 Instrument ID:

Lab File ID:

SEA015 12209020.D

Initial Weight/Volume: 6.52 g

Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroe	ethane	ND .		0.000082	0.0019
1,2,3-Trichloropropa	ane	ND		0.00034	0.00093
1,2-Dibromo-3-Chlo	ropropane	ND		0.00017	0.0019
1,2-Dichloroethane		ND ·		0.00015	0.00093
1,2-Dichloropropane	Э	ND		0.00016	0.00093
Bromoform		ND		0.000067	0.00093
Bromomethane		ND		0.00036	0.00093
Carbon tetrachloride	9	ND		0.00035	0.00093
Chloroethane		ND		0.00025	0.00093
Chloroform	·	ND		0.00014	0.00093
Chloromethane		ND		0.00016	0.00093
cis-1,3-Dichloroprop	ene	ND		0.00011	0.00093
Dichlorobromometh		ND		0.000069	0.00093
Ethylene Dibromide		ND		0.00012	0.00093
Hexachlorobutadien		ND		0.00031	0.00093
trans-1,3-Dichloropr		ND		0.00017	0.00093
Trichloroethene		ND		0.00016	0.00093
1,1,1-Trichloroethan	iė.	ND		0.00036	0.00093
Benzene		0.00029	J.B.	0.000074	0.00093 (J
Chlorobromomethar	1e	ND	تامر	0.00023	0.00093
Tetrachloroethene		ND		0.00020	0.00093
1,1-Dichloroethane		ND		0.00037	0.00093
1.1.2-Trichloroethan	Δ.	ND		0.000094	0.00093
Dichlorodifluorometh		ND		0.00018	0.00093
Methylene Chloride	iane .	ND		0.00018	0.00093
n-Butylbenzene		ND		0.00018	0.00093
1,2,4-Trimethylbenz	ene	ND		0.00029	0.00093
2-Chlorotoluene	CIIC	ND		0.00031	0.00093
Chlorodibromometha	ane.	ND		0.00014	0.00093
Dibromomethane	alle	ND .		0.00013	0.00093
1,1-Dichloropropene		ND		0.000098	0.00093
		0.00049	1.00		
Toluene 1,2,4-Trichlorobenze		ND	مستطعملير	0.000079	0.00093 LL
	ne	0.00014		0.00036	0.0019
o-Xylene	•		ر س <del>ال</del> اس	0.000050	0.00093
Chlorobenzene	_	0.0010 U	75	0.00017	0.00093
1,3-Dichlorobenzene	•	ND		0.00036	0.00093
Naphthalene		0.0034	J	0.00022	0.0047
Styrene		ND		0.00029	0.00093
4-Chlorotoluene		ND		0.00036	0.00093
trans-1,2-Dichloroeth	iene	ND		0.00027	0.00093
Bromobenzene		ND		0.00015	0.00093
1,2,3-Trichlorobenze	ne	ND		0.00016	0.0019
1,1-Dichloroethene		ND		0.00013	0.0047
1,2-Dichlorobenzene		0.00039	J	0.00033	0.00093
1,1,1,2-Tetrachloroet	thane	ND		0.000081	0.00093
sec-Butylbenzene		0.0014		0.00032 .	0.00093

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-12

Lab Sample ID:

580-15385-12

Client Matrix:

Solid

% Moisture:

Date Sampled: 09/08/2009 0845

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

18.0

Method:

8260B

Analysis Batch: 580-50716

instrument ID:

**SEA015** 

Preparation;

5035

Lab File ID:

12209020.D

Dilution:

1.0

Prep Batch: 580-50646

Initial Weight/Volume: 6.52 g

Date Analyzed:

09/22/2009 1634

nL

Date Prepared:

09/22/2009 0732

Final Weight/Volume:	5	п

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene	هم المعادي وروسته مداره مداره ما المرسلي الاروب فأدا المواري المرسلين المرسلين المرسلين الم	ND		0.00014	0.00093
Isopropylbenzene		0.00050	J	0.00014	0.00093
2,2-Dichloropropane		ND		0.00036	0.00093
N-Propylbenzene		0.00045	J	0.00013	0.00093
Trichlorofluoromethane		ND		0.00018	0.00093
4-Isopropyitoluene		0.00045	J	0.00029	0.00093
1,3,5-Trimethylbenzene		ND ·		0.00033	0.0019
cis-1,2-Dichloroethene		ND		0.00012	0.00093
m-Xylene & p-Xylene		0.00022	J	0.00015	0.0019
Vinyl chloride		ND		0.00014	0.00093
tert-Butylbenzene	•	ND		0.00032	0.00093
1,4-Dichlorobenzene		ND		0.00037	0.00093
1,3-Dichloropropane		ND		0.00020	0.00093
Surrogate		%Rec	Qualifier	Acceptan	ce Limits
4-Bromofluorobenzene (Surr)		104		85 - 120	
Toluene-d8 (Surr)		100		85 - 115	
Trifluorotoluene (Surr)		94		75 - 125	•
1,2-Dichloroethane-d4 (Surr)		103		75 - 125	

Job Number: 580-15385-1

Client: TestAmerica Laboratories, Inc RS6-SEDØ

Client Sample ID:

SSI0049-13

Lab Sample ID:

580-15385-13

Client Matrix:

Solid

% Moisture: 25.0 Date Sampled: 09/08/2009 0740

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

**SEA015** 

Preparation:

5035

Lab File ID:

I2209021.D

Dilution:

Prep Batch: 580-50646

Initial Weight/Volume: 4.48 g

Date Analyzed:

1.0

Final Weight/Volume:

Date Prepared:

09/22/2009 1657

0012	272000	1001
09/2	2/2009	0732

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroethane		ND		0.00013	0.0030
1,2,3-Trichloropropane		ND		0.00054	0.0015
1,2-Dibromo-3-Chloropropa	ane	ND		0.00027	0.0030
1,2-Dichloroethane	,	ND		0.00024	0.0015
1,2-Dichloropropane		ND		0.00025	0.0015
Bromoform		ND		0.00011	0.0015
Bromomethane		ND		0.00057	0.0015
Carbon tetrachloride		ND		0.00055	0.0015
Chloroethane		ND		0.00040	0.0015
Chloroform		ND		0.00022	0.0015
Chloromethane		ND		0.00026	0.0015
cis-1,3-Dichloropropene		ND		0.00017	0.0015
Dichlorobromomethane		ND		0.00011	0.0015
Ethylene Dibromide		ND		0.00020	0.0015
Hexachlorobutadiene		ND		0.00050	0.0015
trans-1,3-Dichloropropene		ND		0.00026	0.0015
Trichloroethene		ND		0.00026	0.0015
1,1,1-Trichloroethane		ND		0.00057	0.0015
Benzene		0.09020	J.B	0.00012	0.0015
Chlorobromomethane		ND		0.00037	0.0015
Tetrachloroethene		ND		0.00015	0.0015
1,1-Dichloroethane		ND ·		0.00058	0.0015
1,1,2-Trichloroethane		ND		0.00015	0.0015
Dichlorodifluoromethane		ND		0.00029	0.0015
Methylene Chloride		ND		0.00029	0.0015
n-Butylbenzene		ND		0.00047	0.0015
1,2,4-Trimethylbenzene		ND		0.00049	0.0015
2-Chlorotoluene	•	ND		0.00022	0.0015
Chlorodibromomethane		ND		0.00020	0.0015
Dibromomethane		ND		0.00016	0.0015
1,1-Dichloropropene		ND		0.00058	0.0015
Toluene		0.00029	سطلب	0.00013	0.0015 U
1,2,4-Trichlorobenzene		ND		- 0.00057	0.0030
o-Xylene		0.00012	J	0.000079	0.0015
Chlorobenzene		0,00035	سطلس	0.00026	0.0015 👢
1,3-Dichlorobenzene		ND	_	0.00057	0.0015
Naphthalene		ND		0.00036	0.0074
.Styrene		ND		0.00047	0.0015
4-Chlorotoluene		ND		0.00057	0.0015
trans-1,2-Dichloroethene		ND		0.00043	0.0015
Bromobenzene		ND		0.00023	0.0015
1,2,3-Trichlorobenzene		ND		0.00026	0.0030
1.1-Dichloroethene		ND ·		0.00021	0.0074
1,2-Dichlorobenzene		ND		0.00052	0.0015
1,1,1,2-Tetrachloroethane		ND		0.00013	0.0015
1,1,1,2-⊺etrachioroethane sec-Butylbenzene		ND ND		0.00013 0.00051	0.0015 0.0015

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-13

Lab Sample ID:

580-15385-13

Client Matrix:

Solid

% Moisture: 25.0 Date Sampled: 09/08/2009 0740

Date Received: 09/11/2009 0940

8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

**SEA015** 

Preparation:

5035

Lab File ID:

I2209021,D

Dilution:

Prep Batch: 580-50646

. 1.0

Initial Weight/Volume: 4.48 g

Date Analyzed:

09/22/2009 1657

Final Weight/Volume: 5 mL

Date Prepared:

09/22/2009 0732

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene	erik karamatan kempanyan kanan yang Properties kanantah kanantah kempanjan kempanjan kempanjan kempanjan kempa Kanantah kanantah kempanjan kempanjan kempanjan kempanjan kempanjan kempanjan kempanjan kempanjan kempanjan ke	ND		0.00022	0.0015
Isopropylbenzene		ND		0.00022	0.0015
2,2-Dichloropropane		ND		0.00057	0.0015
N-Propylbenzene		ND		0.00021	0.0015
Trichlorofluoromethane		ND		0.00029	0.0015
4-isopropyltoluene		ND		0.00046	0.0015
1,3,5-Trimethylbenzene		ND		0.00052	0.0030
cis-1,2-Dichloroethene		ND		0.00019	0,0015
m-Xylene & p-Xylene		0.00029	J	0.00024	0.0030
Vinyl chloride		ND		0.00022	0.0015
tert-Butylbenzene		ND		0.00050	0.0015
1,4-Dichlorobenzene		ND		0.00059	0.0015
1 3-Dichioropropane	•	ND		0.00033	0.0015

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	104	parties als	85 - 120
Toluene-d8 (Surr)	98	•	85 - 115
Trifluorotoluene (Surr)	97		75 - 125
1,2-Dichloroethane-d4 (Surr)	102		75 - 125

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-14

Lab Sample ID:

580-15385-14

Client Matrix:

Solid

RS6-SED3

% Moisture: 31.9

Date Sampled: 09/08/2009 0735 Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

**SEA015** 

Preparation: Dilution:

5035

Prep Batch: 580-50646

Lab File ID:

12209024.D

1.0

Initial Weight/Volume: 5.28 g

Date Analyzed:

09/22/2009 1809

Final Weight/Volume: 5 mL

0.00047

0.0014

Date Prepared:	09/22/2009	0732

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroethane		0.00027	J	0.00012	0.0028
1,2,3-Trichloropropane		ND		0.00050	0.0014
1,2-Dibromo-3-Chloroprop	ane	0.00054	J	0.00025	0.0028
1,2-Dichloroethane		ND		0.00022	0.0014
1,2-Dichloropropane	•	ND		0.00024	0.0014
Bromoform		ND		0.00010	0.0014
Bromomethane		ND		0.00054	0.0014
Carbon tetrachioride		ND		0.00052	0.0014
Chloroethane		ND		0.00037	0.0014
Chloroform		ND		0.00021	0.0014
Chloromethane		ND		0.00024	0.0014
cis-1,3-Dichloropropene		ND		0.00016	0.0014
Dichlorobromomethane		ND		0.00010	0.0014
Ethylene Dibromide		ND		0.00018	0.0014
Hexachlorobutadiene	•	0.00093	j	0.00047	0.0014
trans-1,3-Dichloropropene		ND		0.00025	0.0014
Trichloroethene		ND		0.00024	0.0014
1,1,1-Trichloroethane		ND		0.00053	0.0014
Benzene		0,00063	سطلا	0.00011	0.0014 👪
Chlorobromomethane		ND		0.00035	0.0014
Tetrachloroethene		ND		0.00014	0.0014
1,1-Dichloroethane		ND		0.00055	0.0014
1,1,2-Trichloroethane	•	ND		0.00014	0.0014
Dichlorodifluoromethane		ND		0.00027	0.0014
Methylene Chloride		ND		0.00027	0.0014
n-Butylbenzene		0.0011	J	0.00044	0.0014
1,2,4-Trimethylbenzene		0.00072	J	0.00046	0.0014
2-Chlorotoluene		0.00029	J	0.00020	0.0014
Chlorodibromomethane		ND		0.00019	0.0014
Dibromomethane		ND		0.00015	0.0014
1,1-Dichloropropene		NÐ		0.00054	0.0014
Toluene	•	0.0022	<del></del>	0.00012	0.0014
1,2,4-Trichlorobenzene	•	0.00088	<b>J</b>	0.00053	0.0028
o-Xylene		0.00036	j	0.000074	0.0014
Chlorobenzene		_0.00058		0.00025	0.0014 ti
1,3-Dichlorobenzene		0.00054	J	0.00053	0.0014
Naphthalene		0.0018	j	0.00033	0.0070
_Styrene		0.00049	J	0.00044	0.0014
4-Chiorotoluene		ND		0.00054	0.0014
trans-1,2-Dichloroethene		ND		0.00040	0.0014
Bromobenzene		0.00035	J	0.00022	0.0014
1,2,3-Trichlorobenzene		_0.0010	<del>  B</del>	0.00024	0.0028 U
1,1-Dichloroethene		ND	<del>-</del>	0.00019	0.0070
1,2-Dichlorobenzene		0.00057	J	0.00048	0.0014
1,1,1,2-Tetrachioroethane		ND	=	0.00012	0.0014
and But the second					

**TestAmerica Tacoma** 

sec-Butylbenzene

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0.00072

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-14

Lab Sample ID:

580-15385-14

Client Matrix:

Solid

% Moisture:

31.9

Date Sampled: 09/08/2009 0735

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

SEA015

Preparation:

5035

Lab File ID:

Dilution:

Prep Batch: 580-50646

I2209024.D

1.0

Initial Weight/Volume: 5.28 g

Date Analyzed:

09/22/2009 1809 09/22/2009 0732 Final Weight/Volume:

Date Prepared:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL	
Ethylbenzene	,	0.00028	J	0.00021	0.0014	
Isopropylbenzene		0.00029	J	0.00021	0.0014	
2,2-Dichloropropane		ND		0.00053	0.0014	
N-Propylbenzene		0.00088	J	0.00020	0.0014	
Trichlorofluoromethane		ND		0.00027	0.0014	
4-Isopropyitoluene		0.0022		0.00043	0.0014	
1,3,5-Trimethylbenzene	_	0.00054	J ·	0.00049	0.0028	
cis-1,2-Dichloroethene	-	ND		0.00018	0.0014	
m-Xylene & p-Xylene		0.00065	J	0.00022	0.0028	
Vinyl chloride		ND		0.00021	0.0014	
tert-Butylbenzene		0.00062	J	0.00047	0.0014	
1,4-Dichlorobenzene	1	0.00070	J	0.00055	0.0014	
1,3-Dichloropropane		ND		0.00030	0.0014	

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	105	man ang ang it mana antag iter antit ang any and a na a na a na a na a na a na a	85 - 120
Toluene-d8 (Surr)	101		85 - 115
Trifluorotoluene (Surr)	89		75 - 125
1,2-Dichloroethane-d4 (Surr)	96		75 - 125

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SS10049-15

RS3-SED4

Lab Sample ID:

580-15385-15

Client Matrix:

Solid

% Moisture: 16.8 Date Sampled: 09/08/2009 1115 Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

**SEA015** 

Preparation: Dilution:

5035

Prep Batch: 580-50646

Lab File ID: Initial Weight/Volume: 7,49 g

12209025.D

1.0

Final Weight/Volume: 5 mL

Date Analyzed: Date Prepared:

09/22/2009 1833 09/22/2009 0732

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL	
1,1,2,2-Tetrachloroe	thane	ND		0.000071	0.0016	
1,2,3-Trichloropropa	ne	ND		0.00029	0.00080	
1,2-Dibromo-3-Chlor	ropropane	ND		0.00015	0.0016	
1,2-Dichloroethane		ND		0.00013	0.00080	
1,2-Dichloropropane	•	ND		0.00014	0.00080	
Bromoform		ND	•	0.000058	0.00080	
Bromomethane		ND		0.00031	0.00080	
Carbon tetrachloride	•	ND		0.00030	0.00080	
Chloroethane		ND		0.00022	0.00080	
Chloroform		ND		0.00012	0.00080	
Chloromethane		ND		0.00014	0.00080	
cis-1,3-Dichloroprop	ene	ND		0.000094	0.00080	
Dichlorobromometha		ND.		0.000059	0.00080	
Ethylene Dibromide		ND		0.00011	0.00080	
Hexachlorobutadiene	Pa	ND		0.00027	0.00080	
trans-1,3-Dichloropro		ND		0.00014	0.00080	
Trichloroethene	550.10	ND		0.00014	0.00080	
1,1,1-Trichloroethan	2	ND		0.00031	0.00080	
Benzene	•	0.08026	علا ا	0.000063	0.00080 14	
Chlorobromomethan	•	ND		0.00020	0.8000.0	
Tetrachioroethene	e	ND		0.00020		
1,1-Dichloroethane		ND		0.00032	0.00080	
1,1,2-Trichloroethan	_	ND ND		0.00032	0.00080	
Dichlorodifluorometh					0.00080	
	ane	ND ND		0.00015	0.00080	
Methylene Chloride		ND		0.00015	0.00080	
n-Butylbenzene		ND		0.00025	0.00080	
1,2,4-Trimethylbenze	епе	ND		0.00027	0.00080	
2-Chlorotoluene		ND		0.00012	0.00080	
Chlorodibromometha	ine	ND		0.00011	0.00080	
Dibromomethane	*	ND		0.000084	0.00080	
1,1-Dichloropropene		ND		0.00031	0.00080	
Toluene		0.00022	سطليب	0.000068	0.00080 <b>U</b>	
1,2,4-Trichlorobenze	ne	ND		0.00031	0.0016	
o-Xylene	,	0.000077	J	0.000043	0.00080	
Chlorobenzene		_0.00 <del>02</del> 1	<del></del>	0.00014	ىل 08000.0	
1,3-Dichlorobenzene		ND		0.00030	0.00080	
Naphthalene	•	ND		0.00019	0.0040	
—Styrene——		ND		0.00025	0:00080	
4-Chlorotoluene		ND		0.00031	0.00080	
trans-1,2-Dichloroeth	ene	ND		0.00023	0.00080	
Bromobenzene		ND		0.00013	0.00080	
1,2,3-Trichlorobenzer	ne .	<u>.0.00024</u>	سطلب	0.00014	0.0016 👪	
1,1-Dichloroethene		ND		0.00011	0.0040	
1,2-Dichlorobenzene		ND		0.00028	0.00080	
1,1,1,2-Tetrachloroeti	hane ·	ND		0.000070	0.00080	
sec-Butylbenzene		ND		0.00027	0.00080	
• -						

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-15

Lab Sample ID:

580-15385-15

Client Matrix:

Solid

% Moisture:

16.8

Date Sampled: 09/08/2009 1115

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

**SEA015** 

Preparation:

5035

Lab File ID:

I2209025.D

Dilution:

1.0

Prep Batch: 580-50646

Initial Weight/Volume: 7.49 g

Date Analyzed:

Date Prepared:

09/22/2009 1833 09/22/2009 0732 Final Weight/Volume:

5 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene	tier in mention to be a proper and the name of the proper and the second	ND	and a full substitution of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the first of the	0.00012	0.00080
Isopropylbenzene		ND		0.00012	0.00080
2,2-Dichloropropane		ND		0.00031	0.00080
N-Propylbenzene		ND		0.00012	0.00080
Trichlorofluoromethane		ND		0.00016	0.00080
4-Isopropyitoluene		ND		0.00025	0.00080
1,3,5-Trimethylbenzene		ND		0.00028	0.0016
cis-1,2-Dichloroethene		ND		0.00010	0.00080
m-Xylene & p-Xylene		0.00014	J ,	0.00013	0.0016
Vinyl chloride		ND		0.00012	0.00080
tert-Butylbenzene		ND		0.00027	0.00080
1,4-Dichlorobenzene		ND		0.00032	0.00080
1,3-Dichloropropane		ND		0.00018	0.00080
Surrogate		%Rec	Qualifier	Acceptan	ce Limits
4-Bromofluorobenzene (Sur	r)	103	prompt ny mandantha strins years	85 - 120	emicinatemia in mili garini mang naggah, padalang naggah biyang mang mang n

Surrogate	%Rec	Qualifier	Acceptance
4-Bromofluorobenzene (Surr)	103		85 - 120
Toluene-d8 (Surr)	100		85 - 115
Trifluorotoluene (Surr)	88		75 - 125
1.2-Dichloroethane-d4 (Surr)	101		75 - 125

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-16

RS3-SEDØ

Lab Sample ID:

580-15385-16

Client Matrix:

Solid

% Moisture: 27.9

Date Sampled: 09/08/2009 1110 Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method: Preparation: Dilution:

8260B

5035 1.0

Date Analyzed: Date Prepared:

09/22/2009 1857 09/22/2009 0732 Analysis Batch: 580-50716

Prep Batch: 580-50646

Instrument ID: Lab File ID:

**SEA015** 12209026.D

Initial Weight/Volume: 4.23 g

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloroethane		ND		0.00014	0.0033
1,2,3-Trichloropropane		ND		0.00059	0.0016
1,2-Dibromo-3-Chloropropa	ne	ND		0.00030	0.0033
1,2-Dichloroethane		ND		0.00026	0.0016
1,2-Dichloropropane		ND		0.00028	0.0016
Bromoform		ND		0.00012	0.0016
Bromomethane		ND	•	0.00063	0.0016
Carbon tetrachloride		ND		0.00061	0.0016
Chloroethane		ND		0.00044	0.0016
Chloroform		ND	-	0.00024	0.0016
Chloromethane		ND		0.00029	0.0016
cis-1,3-Dichloropropene		ND		0.00019	0.0016
Dichlorobromomethane		ND		. 0.00012	0.0016
Ethylene Dibromide		ND		0.00022	0.0016
Hexachlorobutadiene		ND		0.00055	0.0016
trans-1,3-Dichloropropene		ND		0.00029	0.0016
Trichloroethene		ND		0.00029	0.0016
1,1,1-Trichloroethane		ND		0.00063	0.0016
Benzene		_0_00064	سطىب	0.00013	0.0016 LL
Chlorobromomethane		ND		0.00041	0.0016
Tetrachloroethene		ND		0.00017	0.0016
1,1-Dichloroethane		ND	•	0.00064	0.0016
1,1,2-Trichloroethane		ND		0.00017	0.0016
Dichlorodifluoromethane		ND		0.00031	0.0016
Methylene Chloride		ND		0.00032	0.0016
n-Butylbenzene		0.0092		0.00051	0.0016
1,2,4-Trimethylbenzene		ND		0.00054	0.0016
2-Chlorotoluene		ND		0.00024	. 0.0016
Chlorodibromomethane		ND		0.00022	0.0016
Dibromomethane		ND		0.00017	0.0016
1,1-Dichloropropene		ND		0.00064	0.0016
Toluene		_0.00079	سطىلىپ	0.00014	0.0016 <b>U</b>
1,2,4-Trichlorobenzene		ND		0.00063	0.0033
o-Xylene		0.00097	j	0.000087	0.0016
Chlorobenzene		_0.0010-	<del>الا</del> لــ	0.00029	0.0016 👢
1,3-Dichlorobenzene		ND		0.00062	0.0016
Naphthalene	,	0.0035	J	0.00039	0.0082
Styrene		ND		0:00052	0:0016
4-Chlorotoluene		ND		0.00063	0.0016
rans-1,2-Dichloroethene		ND		0.00047	0.0016
Bromobenzene		ND		0.00026	0.0016
1,2,3-Trichlorobenzene		ND		0.00028	0.0033
1,1-Dichloroethene		ND		0.00023	0.0082
1,2-Dichlorobenzene		0.0023		0.00057	0.0016
1,2-Dichlorobenzene 1,1,1,2-Tetrachloroethane sec-Butylbenzene		0.0023 ND 0.0065		0.00057 0.00014	0.0016 0.0016

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Client: TestAmerica Laboratories, Inc. Job Number: 580-15385-1

Client Sample ID: SSI0049-16

Lab Sample ID:

Client Matrix:

580-15385-16

Solid

% Moisture:

Date Sampled: 09/08/2009 1110

Date Received: 09/11/2009 0940

8260B Volatile Organic Compounds (GC/MS)

27.9

Method: Preparation:

8260B 5035

Analysis Batch: 580-50716

Instrument ID:

**SEA015** 

Dilution:

Prep Batch: 580-50646

Lab File ID:

12209026.D

1.0

Initial Weight/Volume: 4.23 g

Date Analyzed: Date Prepared: 09/22/2009 1857 09/22/2009 0732

DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
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	0.0028		0.00024	0.0016
	ND		0.00063	0.0016
	0.00072	J	0.00024	0.0016
	ND		0.00032	0.0016
	0.0020		0.00051	0.0016
	ND		0.00058	0.0033
	ND		0.00021	0.0016
	0.00048	J	0.00026	0.0033
	ND		0.00024	0.0016
	0.00089	J	0.00055	0.0016
	0.00094	J,	0.00065	0.0016
	ND		0.00036	0.0016
	And the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	ND 0.0028 ND 0.00072 ND 0.0020 ND ND ND 0.00048 ND 0.00089 0.00089	ND 0.0028 ND 0.00072 J ND 0.0020 ND ND ND 0.00048 J ND 0.00089 J 0.00094 J	ND       0.00024         0.0028       0.00024         ND       0.00063         0.00072       J       0.00024         ND       0.00032         0.0020       0.00051         ND       0.00058         ND       0.00021         0.00048       J       0.00026         ND       0.00024         0.00089       J       0.00055         0.00094       J       0.00065

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	114		85 - 120
Toluene-d8 (Surr)	104		85 - 115
Trifluorotoluene (Surr)	94		75 - 125
1.2-Dichloroethane-d4 (Surr)	96		75 - 125

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-17

RS4-SED &

Lab Sample ID:

580-15385-17

Client Matrix:

Solid

% Moisture:

Date Sampled: 09/08/2009 1220

**SEA015** 

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method: Preparation:

Dilution:

8260B

5035

1.0

Date Analyzed: Date Prepared: 09/22/2009 1921

09/22/2009 0732

Analysis Batch: 580-50716 Instrument ID:

Prep Batch: 580-50646 Lab File ID:

I2209027.D

Initial Weight/Volume: 5.49 g

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachic		ND		0.000096	0.0022
1,2,3-Trichloropr		ND		0.00039	0.0011
1,2-Dibromo-3-C		ND		0.00020	0.0022
1,2-Dichloroetha	ne	ND		0.00017	0.0011
1,2-Dichloroprop	ane	ND		0.00019	0.0011
Bromoform		ND		0.000079	0.0011
Bromomethane		ND		0.00042	0.0011
Carbon tetrachlo	ride	ND		0.00041	0.0011
Chloroethane		ND		0.00029	0.0011
Chloroform		ИD		0.00016	0.0011
Chloromethane		ND		0.00019	0.0011
cis-1,3-Dichlorop	ropene	ND		0.00013	0.0011
Dichlorobromome		ND		0.000081	0.0011
Ethylene Dibromi		ND		0.00014	0.0011
Hexachlorobutad		ND		0.00037	0.0011
trans-1,3-Dichlore	opropene	ND	•	0.00019	0.0011
Trichloroethene		ND		0.00019	0.0011
1,1,1-Trichloroeth	nane	ND		0.00042	0.0011
Benzene		_0.00 <del>053</del> 3	ستنشطلف ستنشطلف	0.000086	0.0011 ፈሊ
Chlorobromometi		ND		0.00027	0.0011
Tetrachloroethen	e	ND		0.00011	0.0011
1,1-Dichloroethar	1 <del>e</del>	ND		0.00043	0.0011
1,1,2-Trichloroeth		ND		0.00011	0.0011
Dichlorodifluorom		ND		0.00021	0.0011
Methylene Chlorid	de	ND		0.00021	0.0011
n-Butylbenzene		0.018	J	0.00034	0.0011
1,2,4-Trimethylbe	enzene	ND		0,00036	0.0011
2-Chlorotoluene		ND		0.00016	0.0011
Chlorodibromome		ND		0.00015	0.0011
Dibromomethane		ND		0.00011	0.0011
1,1-Dichloroprope	ene	ND		0.00042	0.0011
Toluene		0.0014	T Marie	0.000093	0.0011
1,2,4-Trichlorober	nzene	ND	1000	0.00042	0.0022
o-Xylene		ND	<b></b>	0.000058	0.0011
Chlorobenzene		_0.0020	_B_J	0.00019	0.0011 仏
1,3-Dichlorobenze	ene	ND		0,00041	0.0011
Naphthalene		0.0062	7	0.00026	0.0055
_Styrene		ND		0.00034	0.0011
4-Chlorotoluene		ND		0.00042	0.0011
trans-1,2-Dichloro	ethene	ND		0.00031	0.0011
Bromobenzene		ND .		0.00017	0.0011
1,2,3-Trichlorober		ND		0.00019	0.0022
1,1-Dichloroetheл		ND		0.00015	0.0055
1,2-Dichlorobenze		0.0019	ı	0.00038	0.0011
1,1,1,2-Tetrachlor		ND		0.000095	- 0.0011
sec-Butylbenzene	•	0.010	3	0.00037	0.0011

TestAmerica Tacoma

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Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-17

Lab Sample ID:

580-15385-17

Client Matrix:

Solid

% Moisture:

16.5

Date Sampled: 09/08/2009 1220

Date Received: 09/11/2009 0940

### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

SEA015

Preparation:

5035

Prep Batch: 580-50646

Lab File ID:

I2209027.D

Dilution:

Initial Weight/Volume: 5.49 g

1.0 09/22/2009 1921

Fir

Date Analyzed: Date Prepared:

09/22/2009.0732

	Troigno Foldino			3
na!	Weight/Volume:	5	m	L

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL.
Ethylbenzene	والمستودرين فستقط والمستوي والمستوين والمناورين والمناورين والمناورين والمناور والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناورة والمناو	ND	Water of the second second second second second second second second second second second second second second	0.00016	0.0011
isopropylbenzene		0.0025	7	0,00016	0.0011
2,2-Dichloropropane		ND		0.00042	0.0011
N-Propylbenzene		ND		0.00016	0.0011
Trichlorofluoromethane		ND		0.00021	0.0011
4-isopropyltoluene		0.0041	7	0.00034	0.0011
1,3,5-Trimethylbenzene		ND		0.00038	0.0022
cis-1,2-Dichloroethene		ND		0,00014	0.0011
n-Xylene & p-Xylene		ND		0.00017	0.0022
Vinyl chloride		ND		0.00016	0.0011
ert-Butylbenzene		ND		0.00037	0.0011
1,4-Dichlorobenzene		ND		0,00043	0.0011
1,3-Dichloropropane		ND		0.00024	0.0011
Surrogate		%Rec	Qualifier	Acceptan	ce Limits
I-Bromofluorobenzene (Surr)	alaminan kananan sagami (Alami Alamin kanan samaya masa Ali ali (Alami da Salain)	127	X	85 - 120	مناودة فأم دراوه وسامها وويورون والمارة والمناطقة والمناو ويتماها والمناو ويتماها
Foluene-d8 (Surr)		109		85 - 115	
Frifluorotoluene (Surr)		95		<b>75 - 125</b>	
1,2-Dichloroethane-d4 (Surr)		98		75 - 125	



Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-18

RS4-SED4

Lab Sample ID:

580-15385-18

Client Matrix:

Solid

% Moisture: 13.4

Date Sampled: 09/08/2009 1225

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-50716

Instrument ID: Lab File ID:

**SEA015** 

Preparation: Dilution:

5035

Prep Batch: 580-50646

12209028.D

1.0

Initial Weight/Volume: 7.39 g

Date Analyzed:

09/22/2009 1944

Date	Prepared:	09/22/2009	0732

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
1,1,2,2-Tetrachloro		ND		0.000069	0.0016
1,2,3-Trichloroprop		ND		0.00028	0.00078
1,2-Dibromo-3-Chl		ND ·		0.00014	0.0016
1,2-Dichloroethane		ND		0.00012	0.00078
1,2-Dichloropropar	ne	ND		0.00013	0.00078
Bromoform		ND		0.000056	0.00078
Bromomethane		ND		0.00030	0.00078
Carbon tetrachlorid	ie	ND		0.00029	0.00078
Chloroethane		ND		0.00021	0.00078
Chloroform		ND		0.00012	0.00078
Chloromethane		ND		0.00014	0.00078
cis-1,3-Dichloropro	pene	ND		0.000091	0,00078
Dichlorobromometl	nane	ND		0.000058	0.00078
Ethylene Dibromide		ND		0.00010	0.00078
Hexachlorobutadie	ne	ND		0.00026	0.00078
trans-1,3-Dichlorop	ropene	ND		0.00014	0.00078
Trichloroethene		ND		0.00014	0.00078
1,1,1-Trichloroetha	ne	ND		0.00030	0.00078
Benzene		0.00011	B	0.000062	0.00078 U
Chlorobromometha	ine	ND	_	0.00019	0.00078
Tetrachloroethene		ND		0.000080	0.00078
1,1-Dichloroethane	•	ND		0.00031	0.00078
1,1,2-Trichloroetha	ne	ND		0.000079	0.00078
Dichlorodifluoromet	thane	ND		0.00015	0.00078
Methylene Chloride	•	ND		0.00015	0.00078
n-Butylbenzene		ND		0.00025	0.00078
1,2,4-Trimethylbena	zene	ND		0.00026	0.00078
2-Chlorotoluene		ND		0.00011	0.00078
Chlorodibromometh	апе	ND		0.00011	0.00078
Dibromomethane		ND		0.000082	0.00078
1,1-Dichloropropen	· ·	ND		0.00030	0.00078
Toluene		0.00016	سطلب	0.000066	0.00078 LL
1,2,4-Trichlorobenz	ene	ND		0.00030	0.0016
o-Xylene		0.000049	J	0.000041	0.00078
Chiorobenzene		0.00025	علي. ا	0.00014	0.00078 <b>t</b>
1.3-Dichlorobenzen	e	ND	<b>4-</b>	0.00030	0.00078
Naphthalene		ND		0.00019	0.0039
-Styrene		ND		0.00025	0.00078
4-Chlorotoluene		ND		0.00030	0.00078
trans-1,2-Dichloroet	hene '	ND		0.00022	0.00078
Bromobenzene	,	ND		0.00012	0.00078
1.2.3-Trichlorobenzo	ene	ND	. *	0.00012	0.0016
1.1-Dichloroethene	<del></del>	ND		0.00013	0.0039
1,2-Dichlorobenzen		ND		0.00027	0.00039
1,1,1,2-Tetrachloroe		ND		0.00027	0.00078
sec-Butylbenzene		ND		0.00000	0.00078
300-DutyiDenzerie		MD		0,00027	0.00076

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Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-18

Lab Sample ID:

580-15385-18

Client Matrix:

Solid

% Moisture: 13.4 Date Sampled: 09/08/2009 1225

Date Received: 09/11/2009 0940

8260B Volatile Organ	ic Compounds (	(GC/MS)
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Method:

8260B

Analysis Batch: 580-50716

Instrument ID:

**SEA015** 

Preparation:

5035

Prep Batch: 580-50646

Lab File ID:

12209028.D

Dilution: Date Analyzed: 1.0

Initial Weight/Volume: 7.39 g

Date Prepared:

09/22/2009 1944 09/22/2009 0732

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Ethylbenzene	men mil og tilt. 195 meg rigersprensssamer Portmet (ty ty grif þyuma ("pengenga fyrg statist, tel frill þrep s	ND		0.00012	0.00078
Isopropylbenzene		ND		0.00012	0.00078
2,2-Dichloropropane	•	ND		0.00030	0.00078
N-Propylbenzene		ND		0.00011	0.00078
Trichlorofluoromethane		ND .		0.00015	0.00078
4-Isopropyltoluene		ND		0.00024	0.00078
1,3,5-Trimethylbenzene		ND .		0.00027	0.0016
cis-1,2-Dichloroethene		ND		0.000099	0.00078
m-Xylene & p-Xylene		ИD		0.00012	0.0016
Vinyl chloride		ND		0.00012	0.00078
tert-Butylbenzene		ND .		0.00026	0.00078
1,4-Dichlorobenzene		ND		0.00031	0.00078
1,3-Dichloropropane		ND	•	0.00017	0.00078

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene (Surr)	102		85 - 120
Toluene-d8 (Surr)	101		85 - 115
Trifluorotoluene (Surr)	91		75 <b>- 125</b>
1,2-Dichloroethane-d4 (Surr)	92		75 - 125

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SS10049-19

TRIP BLANK

Lab Sample ID:

580-15385-19TB

Client Matrix:

Solid

Date Sampled: 09/08/2009 0000

Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-51100

Instrument ID:

TAC043

Preparation:

5035

Prep Batch: 580-51093

Lab File ID:

VB00118435.D

Dilution:

1.0

Initial Weight/Volume:

10 g

40

Date Analyzed: Date Prepared: 09/29/2009 2121 09/29/2009 1454 Final Weight/Volume:

400 mL

Analyte	Data 1 10pa.ou. 00/20/2						
Chloromethane		DryWt Corrected: N					
Vinty chloride         ND         1,7         8.0           Bromomethane         ND         1,25         140           Chlorcethane         ND         1,25         140           Chloroethane         ND         1,50         40           1,1-Dichioroethane         ND         1,50         20           Methylene Chloride         7,9         1,13         3.8         40           Anna-1,2-Dichloroethane         ND         1,13         3.8         40           1,1-Dichloroethane         ND         1,13         3.8         40           2,2-Dichloropropane         ND         1,14         3.7         40           cis-1,2-Dichloroethane         ND         1,12         40         40           Chlorobromomethane         ND         1,1         2,4         40           Chlorobromomethane         ND         1,1         3,7         20           Carbon tetrachloride         ND         1,1         3,7         20           1,1-Dichloropropene         ND         1,1         1,8         40           Bertzene         ND         1,1         2,2         40           1,1,2-Dichloropropane         ND         1,1	Dichlorodifluoromethane		ND	H BLJ	8.0	40	
Stromorethane	Chloromethane					400	
Stromorethane	Vinyl chloride		ND	1)	1.7	8.0	
Trichlorofluoromethane	Bromomethane		ND	H (	25	140	
1,1-Dichloroethene	Chloroethane		ND	H (	23	400	
Methylene Chloride	Trichlorofluoromethane		ND	HI	5.0	40	
trans-12-Dichloroethene         ND         H         3.5         40           1,1-Dichloroethane         ND         H         3.8         40           2,2-Dichloropthene         ND         H         2.4         40           Chlorobromomethane         ND         H         2.4         40           Chlorobromomethane         ND         H         2.1         40           Chlorobromomethane         ND         H         3.7         20           1,1,1-Trichloroethane         ND         H         3.7         20           1,1-Dichloropropene         ND         H         1.8         40           Benzene         ND         H         2.5         16         1.2-Dichloropropene         ND         H         3.4         16         1.2-Dichloropropane         ND         H         3.4         16         1.2-Dichloropropane         ND         H         3.9         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12 <t< td=""><td>1,1-Dichloroethene</td><td></td><td>ND</td><td>H V</td><td>5.0</td><td>20</td><td></td></t<>	1,1-Dichloroethene		ND	H V	5.0	20	
trans-12-Dichloroethene         ND         H         3.5         40           1,1-Dichloroethane         ND         H         3.8         40           2,2-Dichloropthene         ND         H         2.4         40           Chlorobromomethane         ND         H         2.4         40           Chlorobromomethane         ND         H         2.1         40           Chlorobromomethane         ND         H         3.7         20           1,1,1-Trichloroethane         ND         H         3.7         20           1,1-Dichloropropene         ND         H         1.8         40           Benzene         ND         H         2.5         16         1.2-Dichloropropene         ND         H         3.4         16         1.2-Dichloropropane         ND         H         3.4         16         1.2-Dichloropropane         ND         H         3.9         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12         12 <t< td=""><td>Methylene Chloride</td><td>•</td><td>7.9</td><td>JH 55</td><td>3.8</td><td>40</td><td></td></t<>	Methylene Chloride	•	7.9	JH 55	3.8	40	
1,1-Dichloroethene	•			Hus	3.5	40	
2,2-Dichloropropane				H ~			
cis-1,2-Dichloroethene         ND         H         2.4         40           Chlorobromomethane         ND         H         12         40           Chloroform         ND         H         2.1         40           1,1,1-Trichloroethane         ND         H         5.0         40           1,1-Dichloropropene         ND         H         1.8         40           Benzene         ND         H         1.8         40           Benzene         ND         H         2.5         16           1,2-Dichloroethane         ND         H         3.4         16           1,2-Dichloropropane         ND         H         3.9         12           Dibromomethane         ND         H         4.0         40           Dichlorobromomethane         ND         H         4.0         40           Dichlorobromomethane         ND         H         4.0         40           Toluene         ND         H         4.0         40           Toluene         ND         H         2.4         40           Trans-1,3-Dichloropropene         ND         H         4.0         40           Trans-1,3-Dichloropropene	• •			jj }		-	
Chlorobromomethane				TA /			
Chloroform	-			jj. (			
1,1,1-Trichloroethane       ND       1       5.0       40         Carbon tetrachloride       ND       1       3.7       20         1,1-Dichloropropene       ND       1       1.8       40         Benzene       ND       1       2.5       16         1,2-Dichloroethane       ND       1       2.2       40         Trichloroethane       ND       1       3.4       16         1,2-Dichloropropane       ND       1       3.9       12         Dibromomethane       ND       1       3.9       12         Dibrloromomethane       ND       1       4.0       40         Dichloropropene       ND       1       3.0       40         Toluene       ND       1       2.4       16         Toluene       ND       1       4.0       40         trans-1,3-Dichloropropene       ND       1       4.0       16         T,1,2-Trichloroethane       ND       1       1.8       12         Tetrachloropropene       ND       1       1.8       12         Tetrachloropropene       ND       1       5.0       40         Chlorodibromomethane       ND <td></td> <td></td> <td></td> <td>ii \</td> <td></td> <td></td> <td></td>				ii \			
Carbon tetrachloride         ND         H         3.7         20           1,1-Dichloropropene         ND         H         1.8         40           Benzene         ND         H         2.5         16           1,2-Dichloroethane         ND         H         2.2         40           Trichloroethene         ND         H         3.4         16           1,2-Dichloropropane         ND         H         3.9         12           Dibromomethane         ND         H         4.0         40           Dichloropromomethane         ND         H         4.0         40           Dichloropropene         ND         H         2.4         16           Toluene         ND         H         2.4         40           trans-1,3-Dichloropropene         ND         H         4.0         16           1,1,2-Trichloroethane         ND         H         4.0         16           1,1,2-Trichloroethane         ND         H         2.1         20           1,3-Dichloropropane         ND         H         2.1         20           1,3-Dichloropropane         ND         H         8.0         40           Chlorodib				Ti /			
1,1-Dichloropropene	• •			II (		·	
Benzene				L \			
1,2-Dichloroethane         ND         #         2.2         40           Trichloroethene         ND         #         3.4         16           1,2-Dichloropropane         ND         #         3.9         12           Dibromomethane         ND         #         4.0         40           Dichlorobromomethane         ND         #         4.0         40           Cis-1,3-Dichloropropene         ND         #         2.4         16           Toluene         ND         #         4.0         16           Toluene         ND         #         4.0         16           1,1,2-Trichloropropene         ND         #         4.0         16           1,1,2-Trichloropropene         ND         #         4.0         16           1,3-Dichloropropene         ND         #         4.0         16           1,1,2-Trichloroethane         ND         #         1.8         12           Tetrachloroethane         ND         #         8.0         40           Chlorobenzene         ND         #         3.7         40           Ethylbenzene         ND         #         4.8         40           1,1,1,2-Tetrachloro	- ·			E l		· <del>-</del>	
Trichloroethene				11 1		· =	
1,2-Dichloropropane				E 1			
Dibromomethane				$\Gamma$ 1			
Dichlorobromomethane         ND         H         3.0         40           cis-1,3-Dichloropropene         ND         H         2.4         16           Toluene         ND         H         2.4         40           trans-1,3-Dichloropropene         ND         H         4.0         16           1,1,2-Trichloroethane         ND         H         1.8         12           Tetrachloroethene         ND         H         2.1         20           1,3-Dichloropropane         ND         H         5.0         40           Chlorodibromomethane         ND         H         8.0         40           Ethylene Dibromide         ND         H         3.2         40           Ethylene Dibromide         ND         H         3.7         40           Ethylenzene         ND         H         3.7         40           Ethylenzene         ND         H         4.8         40           1,1,2-Tetrachloroethane         ND         H         4.8         40           1,1,2-Tetrachloroethane         ND         H         4.8         40           -2,2-Tetrachloroethane         ND         H         7.8         40				F. 1			
cis-1,3-Dichloropropene         ND				17. /			
Toluene				II 1			
trans-1,3-Dichloropropene         ND         H         4.0         16           1,1,2-Trichloroethane         ND         H         1.8         12           Tetrachloroethane         ND         H         2.1         20           1,3-Dichloropropane         ND         H         5.0         40           Chlorodibromomethane         ND         H         8.0         40           Ethylene Dibromide         ND         H         3.2         40           Chlorobenzene         ND         H         3.2         40           Chlorobenzene         ND         H         3.7         40           Ethylbenzene         ND         H         3.7         40				7. 1		• •	
1,1,2-Trichloroethane       ND       H       1.8       12         Tetrachloroethene       ND       H       2.1       20         1,3-Dichloropropane       ND       H       5.0       40         Chlorodibromomethane       ND       H       8.0       40         Ethylene Dibromide       ND       H       3.2       40         Chlorobenzene       ND       H       3.2       40         Ethylbenzene       ND       H       3.7       40         Ethylbenzene       ND       H       3.7       40				T.			
Tetrachloroethene         ND         H         2.1         20           1,3-Dichloropropane         ND         H         5.0         40           Chlorodibromomethane         ND         H         8.0         40           Ethylene Dibromide         ND         H         3.2         40           Chlorobenzene         ND         H         3.2         40           Chlorobenzene         ND         H         3.7         40           Ethylbenzene         ND         H         3.7         40           1,1,2-Tetrachloroethane         ND         H         4.8         40           1,1,2-Tetrachloroethane         ND         H         3.3         10           m-Xylene & p-Xylene         ND         H         7.8         40           o-Xylene         ND         H         2.3         40           Styrene         ND         H         3.8         40           Bromoform         ND         H         1.8         40           Bromobenzene         ND         H         2.7         40           N-Propylbenzene         ND         H         2.8         40           1,2,3-Trichloropropane				# I		=	
1,3-Dichloropropane       ND       H       5.0       40         Chlorodibromomethane       ND       H       8.0       40         Ethylene Dibromide       ND       H       3.2       40         Chlorobenzene       ND       H       2.3       40         Ethylbenzene       ND       H       3.7       40         1,1,2-Tetrachloroethane       ND       H       4.8       40         1,1,2-Tetrachloroethane       ND       H       3.3       10         m-Xylene & p-Xylene       ND       H       7.8       40         o-Xylene       ND       H       2.3       40         Styrene       ND       H       3.8       40         Bromoform       ND       H       1.8       40         Isopropylbenzene       ND       H       1.8       40         N-Propylbenzene       ND       H       2.7       40         N-Propylbenzene       ND       H       2.8       40         1,2,3-Trichloropropane       ND       H       2.4       40         2-Chlorotoluene       ND       H       5.4       40		•		H. 1			
Chlorodibromomethane         ND         H         8.0         40           Ethylene Dibromide         ND         H         3.2         40           Chlorobenzene         ND         H         2.3         40           Ethylbenzene         ND         H         3.7         40           1,1,1,2-Tetrachloroethane         ND         H         4.8         40           1,1,2,2-Tetrachloroethane         ND         H         3.3         10           m-Xylene & p-Xylene         ND         H         7.8         40           o-Xylene         ND         H         7.8         40           Styrene         ND         H         3.8         40           Bromoform         ND         H         11         40           Isopropylbenzene         ND         H         2.7         40           N-Propylbenzene         ND         H         2.8         40           1,2,3-Trichloropropane         ND         H         2.8         40           2-Chlorotoluene         ND         H         5.4         40				<u> </u>			
Ethylene Dibromide				P I			
Chlorobenzene         ND         1         2.3         40           Ethylbenzene         ND         1         3.7         40           1,1,1,2-Tetrachloroethane         ND         1         4.8         40           1,1,2,2-Tetrachloroethane         ND         1         7.8         40           m-Xylene & p-Xylene         ND         1         7.8         40           o-Xylene         ND         1         2.3         40           Styrene         ND         1         3.8         40           Bromoform         ND         1         1         40           Isopropylbenzene         ND         1         1.8         40           Bromobenzene         ND         1         2.7         40           N-Propylbenzene         ND         1         2.8         40           1,2,3-Trichloropropane         ND         1         2         40           2-Chlorotoluene         ND         1         5.4         40				1 1		· <del>-</del>	
Ethylbenzene         ND         1         3.7         40           1,1,1,2-Tetrachloroethane         ND         1         4.8         40           1,1,2,2-Tetrachloroethane         ND         1         3.3         10           m-Xylene & p-Xylene         ND         1         7.8         40           o-Xylene         ND         1         2.3         40           Styrene         ND         1         3.8         40           Bromoform         ND         1         1         40           Isopropylbenzene         ND         1         1.8         40           Bromobenzene         ND         1         2.7         40           N-Propylbenzene         ND         1         2.8         40           1,2,3-Trichloropropane         ND         1         2         40           2-Chlorotoluene         ND         1         5.4         40	<del>-</del>			H			
1,1,1,2-Tetrachloroethane       ND       H       4.8       40         1,1,2,2-Tetrachloroethane       ND       H       3.3       10         m-Xylene & p-Xylene       ND       H       7.8       40         o-Xylene       ND       H       2.3       40         Styrene       ND       H       3.8       40         Bromoform       ND       H       11       40         Isopropylbenzene       ND       H       2.7       40         N-Propylbenzene       ND       H       2.8       40         1,2,3-Trichloropropane       ND       H       12       40         2-Chlorotoluene       ND       H       5.4       40	Chlorobenzene			ዞ /		40	•
1,1,2,2-Tetrachloroethane       ND       1       3.3       10         m-Xylene & p-Xylene       ND       1       7.8       40         o-Xylene       ND       1       2.3       40         Styrene       ND       1       3.8       40         Bromoform       ND       1       1       40         Isopropylbenzene       ND       1       1.8       40         Bromobenzene       ND       1       2.7       40         N-Propylbenzene       ND       1       2.8       40         1,2,3-Trichloropropane       ND       1       2       40         2-Chlorotoluene       ND       1       5.4       40	•			H /	3.7	·-	
m-Xylene & p-Xylene       ND       H       7.8       40         o-Xylene       ND       H       2.3       40         Styrene       ND       H       3.8       40         Bromoform       ND       H       11       40         Isopropylbenzene       ND       H       2.7       40         N-Propylbenzene       ND       H       2.8       40         1,2,3-Trichloropropane       ND       H       12       40         2-Chlorotoluene       ND       H       5.4       40				# \	4.8	. 40	
o-Xylene         ND         II         2.3         40           Styrene         ND         II         3.8         40           Bromoform         ND         II         40           Isopropylbenzene         ND         II         1.8         40           Bromobenzene         ND         II         2.7         40           N-Propylbenzene         ND         II         2.8         40           1,2,3-Trichloropropane         ND         II         12         40           2-Chlorotoluene         ND         II         5.4         40	1,1,2,2-Tetrachloroethane			H /	3.3	10	
Styrene         ND         1         3.8         40           Bromoform         ND         1         11         40           Isopropylbenzene         ND         1         1.8         40           Bromobenzene         ND         1         2.7         40           N-Propylbenzene         ND         1         2.8         40           1,2,3-Trichloropropane         ND         1         12         40           2-Chlorotoluene         ND         1         5.4         40	m-Xylene & p-Xylene		ND	₩ /	7.8	40	
Bromoform         ND         H         11         40           Isopropylbenzene         ND         H         1.8         40           Bromobenzene         ND         H         2.7         40           N-Propylbenzene         ND         H         2.8         40           1,2,3-Trichloropropane         ND         H         12         40           2-Chlorotoluene         ND         H         5.4         40	o-Xylene		ND	# (	2.3	40	
Isopropylbenzene	_Styrene		ND	—-H	3.8	40	
Bromobenzene         ND         H         2.7         40           N-Propylbenzene         ND         H         2.8         40           1,2,3-Trichloropropane         ND         H         12         40           2-Chlorotoluene         ND         H         5.4         40	Bromoform		ND	H) [	11	40	
Bromobenzene         ND         H         2.7         40           N-Propylbenzene         ND         H         2.8         40           1,2,3-Trichloropropane         ND         H         12         40           2-Chlorotoluene         ND         H         5.4         40	Isopropyibenzene		ND	Ŕĺ	1.8	40	
N-Propylbenzene         ND         # 2.8         40           1,2,3-Trichloropropane         ND         # 2         40           2-Chlorotoluene         ND         # 5.4         40				H \	2.7	40	
1,2,3-Trichloropropane ND H 12 40 2-Chlorotoluene ND H 5.4 40	N-Propylbenzene		ND	A /	2.8		
2-Chlorotoluene ND H ♥ 5.4 40				41			
	• •			HΨ		-	
	1,3,5-Trimethylbenzene		4.4	JH T	4.2		

TestAmerica Tacoma

4-Chlorotoluene

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ND

Client: TestAmerica Laboratories, Inc Job Number: 580-15385-1

Client Sample ID:

SS10049-19

Lab Sample ID:

580-15385-19TB

Client Matrix:

Solid

Date Sampled: 09/08/2009 0000 Date Received: 09/11/2009 0940

#### 8260B Volatile Organic Compounds (GC/MS)

Method:

8260B

Analysis Batch: 580-51100

Instrument ID:

**TAC043** 

Preparation:

5035

Prep Batch: 580-51093

Lab File ID:

VB00118435.D

Dilution:

1.0

Initial Weight/Volume: 10 g

Date Analyzed: Date Prepared:

09/29/2009 2121 09/29/2009 1454 Final Weight/Volume:

400 mL

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL
tert-Butylbenzene	A   Language harry sidebild langua tenganya da sa a se a mendin	ND	ዛዚፓ	3.2	40
1,2,4-Trimethylbenzene		ND	H ",	2.1	40
sec-Butylbenzene		NÐ	н <b>)</b> (	5.0	40
1,3-Dichlorobenzene		ND	Hì Ì	5.0	40
4-Isopropyltoluene		ND	H [.	2.B	40
1,4-Dichlorobenzene	,	ND	ի ₩	5.0	40
n-Butylbenzene		21	JH 3	7.3	40
1,2-Dichlorobenzene		ND	HUJ	2,6	40
1,2-Dibromo-3-Chloroprop	cane	ND	H UI	66 .	200
1,2,4-Trichlorobenzene		33	1H 2	5,0	40
1,2,3-Trichlorobenzene		73	HUJ	5.0	40
Hexachlorobutadiene	•	120	Hi i	5.6	40
Naphthalene		ND	Η 4€	6.0	40

Surrogate	%Rec	Qualifier	Acceptance Limits	
Fluorobenzene (Surr)	105		75 - 125	•
Toluene-d8 (Surr)	99		85 - 115	
Ethylbenzene-d10	105		75 - 125	
4-Bromofluorobenzene (Surr)	100	,	85 - 120	
Trifluorotoluene (Surr)	88		75 - 125	

Extraded Qualifier (Tur)
applied due to filed Time
exceedance of Hold Time

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-01

6-RS1-SED 4

Lab Sample ID:

580-15385-1

Client Matrix: Solid % Moisture: 18.6

Date Sampled: 09/07/2009 1350

Date Received: 09/11/2009 0940

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Analysis Batch: 580-50472

Instrument ID:

**TAC023** 

3550B

Lab File ID:

HP15235.D

Dilution:

Prep Batch: 580-50242

Initial Weight/Volume: 20.6970 g

Date Analyzed:

10

Final Weight/Volume:

2 mL

Date Prepared:

09/18/2009 0942 09/15/2009 1010

Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol		ND		0.0088	0.12
Bis(2-chloroethyl)ether		ND		0.012	0.12
2-Chlorophenol		ND		0.0088	0.12
1,3-Dichlorobenzene		ND UJ		0.0085	0.059
1,4-Dichlorobenzene		ND		0.0038	0.059
Benzyl alcohol		ND		0.011	0.12
1,2-Dichlorobenzene		ND		0.0076	0.059
2-Methylphenol		ND		0.0084	0.12
3 & 4 Methylphenol		ND		0.0066	0.24
N-Nitrosodi-n-propylamine		ND		0.012	0.12
Hexachloroethane		ND		0.013	0.12
Nitrobenzene		ND		0.034	0.12
Isophorone		ND		0.0049	0.12
2-Nitrophenol		ND UT		0.0051	0.12
2,4-Dimethylphenol		ND		0.0025	0.12
Benzoic acid		ND		0.77	3.0
Bis(2-chloroethoxy)methand	е	ND		0.0036	0.12
2,4-Dichlorophenol	•	ND		0.0036	0.12
1,2,4-Trichlorobenzene		ND		0.014	0.059
Naphthalene		0.019	j	0.0026	0.024 🗸
4-Chloroaniline		ND		0.013	0.12
Hexachlorobutadiene		ND		0.011	0.059
4-Chloro-3-methylphenol		ND		0.0084	0.12
2-Methylnaphthalene		0.021	J	0.0027	0.024
Hexachlorocyclopentadiene		ND U.J		0.0031	0.12
2,4,6-Trichlorophenol		ND DC		0.0047	0.18
2,4,5-Trichlorophenol		ND		0.0051	0.12
2-Chloronaphthalene		ND		0.0021	0.024
2-Nitroaniline		ND		0.0050	0.12
Dimethyl phthalate		ND		0.0050	0.12
Acenaphthylene		ND		0.0019 -	0.024
2,6-Dinitrotoluene		ND		0.0049	0.12
3-Nitroaniline	•	ND		0.0069	0.12
Acenaphthene		ND		0.0019 —	0.024 V
2,4-Dinitrophenol	•	ND UT		0.017	1.2
4-Nitrophenol	•	ND		0.20	1.2
Dibenzofuran		0.015	j	0.0018	0.12
-2,4-Dinitrotoluene		ND		0:0030	0:12
Diethyl phthalate		ND		0.018	0,12
4-Chlorophenyl phenyl ether	r	ND	•	0.0068	0.12
Fluorene		ND		0,0014 ~-	0.024
4-Nitroaniline		ND		0.017	0.12
4,6-Dinitro-2-methylphenol		ND		0,021	1.2
N-Nitrosodiphenylamine		ND		0.0026	0.059
4-Bromophenyl phenyl ether	•	ND		0.0039	0.12
Hexachlorobenzene		ND		0.0045	0.059

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-01

Lab Sample ID:

580-15385-1

Client Matrix:

Solid

% Moisture:

Date Sampled: 09/07/2009 1350

Date Received: 09/11/2009 0940

18.6

Method: Preparation: 8270C 3550B Analysis Batch: 580-50472

Instrument ID:

**TAC023** 

Dilution:

Prep Batch: 580-50242

Lab File ID:

HP15235.D

10

Initial Weight/Volume: 20,6970 g

Date Analyzed:

Final Weight/Volume: 2 mL

36 - 145

38 - 149

38 - 141

42 - 140

28 - 143

42 - 151

Date Prepared:

2-Fluorophenol

Nitrobenzene-d5

2-Fluorobiphenyl

Phenol-d5

09/18/2009 0942 09/15/2009 1010

Injection Volume:

1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol		ND	·	0.014	0.12
Phenanthrene		0.040		0.0025 —	0.024
Anthracene		0.014	J	0.0017 —	0.024
Di-n-butyl phthalate		ND		0.031	0.24
Fluoranthene		0.040	*	0.0014	0.024
Pyrene		0.047		0.0017 —	0.024
Butyl benzyl phthalate	•	ND		0.037	0.12
3,3'-Dichlorobenzidine		ND		0.0094	0.24
Benzo[a]anthracene		0.012	J	0.0020	0.030
Chrysene		0.029	J	0.0017 —	0.030
Bis(2-ethylhexyl) phthalate		ND		0.050	· 1.8
Di-n-octyl phthalate		ND		0.0015	0.24
Benzo[a]pyrene		ND		0.0025	0.036
Indeno[1,2,3-cd]pyrene		0.035	J	0.0050 -	0.047
Dibenz(a,h)anthracene		ND		0.0026 ~	0.047
Benzo[g,h,i]perylene		0.022	J	0.0018	0.030
Carbazole		ND		0.0051	0.18
1-Methylnaphthalene		0.0086	J	0.0021 -	0.036
Benzo[b]fluoranthene		ND		0.0049	0.024
Benzo[k]fluoranthene		ND		0.0015 —	0.030
2,2'-oxybis[1-chloropropane	]	ND		0.0080	0.18
Surrogate		%Rec	Qualifier	Acceptance Limits	

74

82

68

76

96

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SS10049-02

G-RS1-SED &

Lab Sample ID:

580-15385-2

Client Matrix:

Solid

% Moisture: 31.0

Date Sampled: 09/07/2009 1355

Date Received: 09/11/2009 0940

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-50472

Instrument ID: Lab File ID:

**TAC023** 

Preparation: Dilution:

3550B

Prep Batch: 580-50242

HP15236.D

Date Analyzed:

10

Initial Weight/Volume: 20.2421 g

Date Prepared:

09/18/2009 1002 09/15/2009 1010 Final Weight/Volume: 2 mL Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol		ND		0.011	0.14
Bis(2-chloroethyl)ether		ND		0.014	0.14
2-Chlorophenol		ND		0.011	0.14
1,3-Dichlorobenzene		ND UJ		0.010	0.072
1,4-Dichlorobenzene		ND		0.0046	0.072
Benzyl alcohol		ND		0.014	0.14
1,2-Dichlorobenzene		ND		0.0092	0.072
2-Methylphenol		ND		0.010	0.14
3 & 4 Methylphenol		ND		0.0080	0.29
N-Nitrosodi-n-propylamine		ND		0.014	0.14
Hexachloroethane		ND		0.016	0.14
Nitrobenzene		ND		0.042	0.14
Isophorone		ND		0.0059	0.14
2-Nitrophenol		ND UJ		0.0062	0.14
2,4-Dimethylphenol		ND		0.0030	0.14
Benzoic acid		ND		0.93	3.6
Bis(2-chloroethoxy)methar	ne	ND		0.0043	0.14
2,4-Dichlorophenol	-	ND		0.0043	0.14
1,2,4-Trichlorobenzene		ND		0.017	0.072
Naphthalene		ND		0.0032	0.029
4-Chloroaniline		ND		0.016	0.14
Hexachlorobutadiene		ND		0.013	0.072
4-Chloro-3-methylphenol		ND		0.010	0.14
2-Methylnaphthalene		0.0069	J	0.0033	0.029
Hexachlorocyclopentadien	e	ND WJ		0.0037	0.14
2,4,6-Trichlorophenol	•	ND		0.0057	0.21
2,4,5-Trichlorophenol		ND		0.0062	0.14
2-Chloronaphthalene		ND		0.0026	0.029
2-Nitroaniline		ND		0.0060	0.14
Dimethyl phthalate		ND		0.0060	0.14
Acenaphthylene		ND		0.0023	0.029
2,6-Dinitrotoluene		ND		0.0059	0.14
3-Nitroaniline		ND .		0.0083	0.14
Acenaphthene		ND		0.0023	0.029
2,4-Dinitrophenol		ND 以ゴ		0.020	1.4
4-Nitrophenol		ND .	•	0.24	1.4
Dibenzofuran		ND		0.0021	0.14
2,4-Dinitrotoluene		ND		0:0036	0.14
Diethyl phthalate		ND		0.021	0.14
4-Chlorophenyl phenyl ethe	er ·	ND		0.0082	0.14
Fluorene		ND		0.0017	0.029
4-Nitroaniline		ND		0.020	0.14
4,6-Dinitro-2-methylphenol	•	ND		0.026	1.4
N-Nitrosodiphenylamine		ND		0.0032	0.072
4-Bromophenyl phenyl ethe	er ·	ND		0.0047	0.14
4-DIGHTOPHENTY PHENT EUR		שאו	•	0.0047	0.14

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-02

Lab Sample ID:

580-15385-2

Client Matrix:

Solid

% Moisture:

Date Sampled: 09/07/2009 1355

Date Received: 09/11/2009 0940

8270C Semivolatile	Compounds !	hy Gae	Chromatouranhy/Mase	Spectrometry (GC/MS)
OZIUG SEIIIVUIZIIIE	Compounds	uv Gas	CITOINALUUTADIIVIMASS	Specifolileti v (GC/MS)

31.0

Method: Preparation: 8270C

Analysis Batch: 580-50472

Instrument ID:

**TAC023** 

Dilution:

3550B 10

Prep Batch: 580-50242

Lab File ID:

HP15236.D

Date Analyzed:

Final Weight/Volume:

Initial Weight/Volume: 20.2421 g 2 mL

Date Prepared:

09/18/2009 1002 09/15/2009 1010

Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol	and a fact the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sam	ND	.e.,	0.017	0.14
Phenanthrene		0.017	J	0.0030	0.029
Anthracene		0.0078	J	0.0020	0.029
Di-n-butyl phthalate		ND		0.037	0.29
Fluoranthene		0.016	J*	0.0017	0.029
Pyrene		0.013	J	0.0020	0.029
Butyl benzyl phthalate		ND		0.044	0.14
3,3'-Dichlorobenzidine		ND		0.011	0.29
Benzo[a]anthracene		0.040		0.0024	0.036
Chrysene		0.0098	j	0.0020	0,036
Bis(2-ethylhexyl) phthalate		ND		0.060	2.1
Di-n-octyi phthalate		ND		0.0019	0.29
Benzo[a]pyrene		0.0066	J	0.0030	0.043
Indeno[1,2,3-cd]pyrene		0.024	J	0.0060	0.057
Dibenz(a,h)anthracene		ND		0.0032	0.057
Benzo[g,h,i]perylene		ND		0.0021	0.036
Carbazole		ND		0.0062	0.21
1-Methylnaphthalene		ND		0.0026	0.043
Benzo[b]fluoranthene		ND		0.0059	0.029
Benzo[k]fluoranthene		ND		0.0019	0.036
2,2'-oxybis[1-chloropropane	·]	ND		0.0096	0.21

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	73		36 - 145
Phenol-d5	80		38 - 149
Nitrobenzene-d5	65		38 - 141
2-Fluorobiphenyl	43		42 - 140
2,4,6-Tribromophenol	55		28 - 143
Terphenyl-d14	79		42 - 151

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-05

G-RS7SED Ø

Lab Sample ID:

580-15385-5

Client Matrix:

Solid

% Moisture:

30.8

Date Sampled: 09/07/2009 1530

Date Received: 09/11/2009 0940

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C 3550B Analysis Batch: 580-50472

Instrument ID: Lab File ID:

**TAC023** HP15239.D

Dilution:

1.0

Prep Batch: 580-50242

Initial Weight/Volume: 20.0088 g Final Weight/Volume:

Date Analyzed: Date Prepared:

09/18/2009 1104 09/15/2009 1010

2 mL Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol		ND		0.0011	0.014
Bis(2-chloroethyl)ether		ND		0.0014	0,014
2-Chlorophenol		ND		0.0011	0.014
1,3-Dichlorobenzene		ND UJ		0.0010	0.0072
1,4-Dichlorobenzene		ND		0.00046	0.0072
Benzyl alcohol		ND		0.0014	0.014
1,2-Dichlorobenzene		ND		0.00093	0.0072
2-Methylphenol		ND		0.0010	0.014
3 & 4 Methylphenol		0.0071	J	0.00081	0.029
N-Nitrosodi-n-propylamine		ND		0.0014	0.014
Hexachloroethane		ND	•	0.0016	0.014
Nitrobenzene		ND		0.0042	0.014
Isophorone		ND		0.00059	0.014
2-Nitrophenol		ND UT		0.00062	0.014
2,4-Dimethylphenol		ND		0.00030	0.014
Benzoic acid		ND		0.094	0.36
Bis(2-chloroethoxy)methano	9	ND	,	0.00043	0.014
2,4-Dichlorophenol		ND		0.00043	0.014
1,2,4-Trichtorobenzene		ND		0.0017	0.0072
Naphthalene		ND		0.00032	0.0029
4-Chloroaniline		ND		0.0016	0.014
Hexachlorobutadiene		ND		0.0013	0.0072
4-Chloro-3-methylphenol		ND		0.0010	0.014
2-Methylnaphthalene		0.00044	j	0.00033	0.0029
Hexachlorocyclopentadiene		ND UJ	J	0.00038	0.014
2,4,6-Trichlorophenol		ND OC		0.00058	0.022
2,4,5-Trichlorophenol		ND		0.00062	0.014
2-Chloronaphthalene	-	ND		0.00026	0.0029
2-Nitroaniline		ND		0.00020	0.014
Dimethyl phthalate		ND		0.00061	0.014
Acenaphthylene		ND		0.00023	0.0029
2,6-Dinitrotoluene		ND ND		0.00059	0.014
3-Nitroaniline		ND		0.00084	D.014
Acenaphthene		ND		0.00023	0.0029
2,4-Dinitrophenol		ND UJ		0.0020	0.14
4-Nitrophenol		ND CC1		0.025	0,14
Dibenzofuran		ND		0.00022	0.014
2,4-Dinitrotoluene		-ND		0.00022	0.014
Diethyl phthalate		0.0001	سظلد	0.0022	0.014 0.014 <u>L</u>
4-Chlorophenyl phenyl ethe		ND ND	فالمتعر	0.00022	0.014
Fluorene	l.	ND		0.00017	0.0029
4-Nitroaniline		ND		0.0020	0.0025
		ND		0.0026	0.014 0.14
4,6-Dinitro-2-methylphenol		ND ND		0.0026	0.0072
N-Nitrosodiphenylamine	_				
4-Bromophenyl phenyl ether		ND		0.00048	0.014
Hexachlorobenzene	•	ND		0.00055	0.0072

Job Number: 580-15385-1 Client: TestAmerica Laboratories, Inc

Client Sample ID:

SSI0049-05

Lab Sample ID:

580-15385-5

Client Matrix:

Solid

% Moisture:

30.8

Date Sampled: 09/07/2009 1530

Date Received: 09/11/2009 0940

Method: Preparation: 8270C 3550B Analysis Batch: 580-50472

Instrument ID: Lab File ID:

**TAC023** HP15239.D

Dilution:

1.0

Prep Batch: 580-50242

Initial Weight/Volume: Final Weight/Volume:

20.0088 g 2 mL

Date Analyzed: Date Prepared:

09/18/2009 1104 09/15/2009 1010

Injection Volume:

Pentachlorophenol	مقرب دو الرابي المرسوب سيلوب المرسوب المرسوب المربوب من المرابع المرابع المرابع المرابع المرابع المرابع المرابع	Result (mg/Kg)	Qualifier	MDL	RL
		ND		0.0017	0.014
Phenanthrene		0.0081		0.00030	0.0029
Anthracene		0.0012	J	0.00020	0.0029
Di-n-butyl phthalate		_0.014	-4	0.0038	0.029
Fluoranthene		0.014	•	0.00017	0.0029
Pyrene		0.012		0.00020	0.0029
Butyl benzyl phthalate		ND		0.0045	0.014
3,3'-Dichlorobenzidine		ND		0.0011	0,029
Benzo[a]anthracene		0.0022	J	0.00025	0.0036
Chrysene		0.0054		0.00020	0.0036
Bis(2-ethylhexyl) phthalate		ND		0.0061	0.22
Di-n-octyl phthalate		ND		0.00019	0.029
Benzo[a]pyrene		ND		0.00030	0.0043
Indeno[1,2,3-cd]pyrene		ND		0.00061	0.0058
Dibenz(a,h)anthracene		ND ,		0.00032	0.0058
Benzo[g,h,i]perylene		ND		0.00022	0.0036
Carbazole		ND		0.00062	0.022
1-Methylnaphthalene		ND		0.00026	0.0043
Benzo[b]fluoranthene		0.0024	J	0.00059	0.0029
Benzo[k]fluoranthene	•	ND .		0.00019	0.0036
2,2'-oxybis[1-chloropropane]		ND		0.00097	0.022

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	76		36 - 145
Phenol-d5	80		38 - 149
Nitrobenzene-d5	57		38 - 141
2-Fluorobiphenyl	29	X	42 - 140
2,4,6-Tribromophenol	66		28 - 143
Terphenyl-d14	65		42 - 151

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SS10049-06

6-RS7-SED4

Lab Sample ID:

580-15385-6

Client Matrix;

Solid

% Moisture:

Date Sampled: 09/07/2009 1525

Date Received: 09/11/2009 0940

Method:
Preparation:

8270C 3550B Analysis Batch: 580-50472

Instrument ID: Lab File ID:

**TAC023** HP15255.D 20.4306 g

Dilution: D

1.0

Prep Batch: 580-50242

Initial Weight/Volume: Final Weight/Volume: 2 mL Injection Volume:

Date Analyzed:	09/18/2009	1633
Date Prepared:	09/15/2009	1010

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol	ang qopaming habitat deptor quadrick shoulder, milian milan menekal at mila	ND	- remove at a secondaria de la companya à companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya	0.00089	0.012
Bis(2-chloroethyl)ether	•	ND		0.0012	0.012
2-Chlorophenol		ND		0.00089	0.012
1,3-Dichlorobenzene		ND UT		0.00086	0.0060
1,4-Dichlorobenzene		ND		0.00038	0.0060
Benzyl alcohol		ND .		0.0011	0.012
1,2-Dichlorobenzene		ND		0.00077	0.0060
2-Methylphenol		ND		0.00085	0.012
3 & 4 Methylphenol		ND		0.00067	0.024
N-Nitrosodi-n-propylamine		ND		0.0012	0.012
Hexachloroethane		ND		0.0013	0.012
Nitrobenzene		ND		0.0035	0.012
Isophorone		ND		0.00049	0.012
2-Nitrophenol		ND UJ		0.00051	0.012
2,4-Dimethylphenol		ND		0.00025	0.012
Benzoic acid		ND		0.078	0.30
Bis(2-chloroethoxy)methane	,	ND		0.00036	0.012
2,4-Dichlorophenol		ND		0.00036	0.012
1,2,4-Trichlorobenzene		ND		0.0014	0.0060
Naphthaiene		ND		0.00026	0.0024
4-Chloroaniline		ND		0.0013	0.012
Hexachlorobutadiene		ND		0.0011	0.0060
4-Chloro-3-methylphenol		ND		0.00085	0.012
2-Methylnaphthalene		0.00035	J	0.00028	0.0024
Hexachlorocyclopentadiene		ND UJ		0.00031	0.012
2,4,6-Trichlorophenol		ND C.J		0.00048	0.018
2,4,5-Trichlorophenol		ND		0.00051	0.012
2-Chloronaphthalene		ND		0.00022	0.0024
2-Nitroaniline		ND		0.00050	0.012
Dimethyl phthalate	1	ND		0.00050	0.012
Acenaphthylene		ND		0.00019	0.0024
2.6-Dinitrotoluene		ND		0.00049	0.012
3-Nitroaniline		ND		0.00069	0.012
Acenaphthene		ND		0.00019	0.0024
2.4-Dinitrophenol		ND UJ		0.0017	0.12
4-Nitropheno		ND		0.020	0.12
Dibenzofuran		ND		0.00018	0.012
2,4-Dinitrotoluene		ND		0.00030	0.012
Diethyl phthalate		0.0040	ا تطلیہ	0.0018	0.012 LL
4-Chlorophenyl phenyl ether		ND		0.00068	0.012
Fluorene		ND		0.00014	0.0024
4-Nitroaniline		ND		0.0017	0.012
4,6-Dinitro-2-methylphenol		ND		0.0022	0.12
N-Nitrosodiphenylamine		ND		0.0022	0.0060
4-Bromophenyl phenyl ether		ND		0.00039	0.012
Hexachlorobenzene		ND		0.00045	0.0060

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SS10049-06

Lab Sample ID:

580-15385-6

Client Matrix:

Solid

% Moisture:

18.2

Date Sampled: 09/07/2009 1525

Date Received: 09/11/2009 0940

	· ·	
8270C Semivolatile Compounds	hy Gas Chromatography/Mass	Spectrometry (GC/MS)

Method:
Preparati

8270C

Analysis Batch: 580-50472

Instrument ID:

TAC023

ion: Dilution:

3550B

Prep Batch: 580-50242

Lab File ID: Initial Weight/Volume: 20.4306 g

HP15255.D

1.0

Final Weight/Volume:

2 mL

Date Analyzed: Date Prepared: 09/18/2009 1633 09/15/2009 1010

Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol		ND	and the second second second second	0.0014	0.012
Phenanthrene		0.00053	J	0.00025	0.0024
Anthracene		0.00036	J	0.00017	0.0024
Di-n-butyl phthalate		0.015	سطىلا	0.0031	0.024 CL
Fluoranthene		0.00036	_J*	0.00014	0.0024
Pyrene		0.00072	J	0.00017	0.0024
Butyl benzyl phthalate		ND		0.0037	0.012
3,3'-Dichlorobenzidine		ND		0.00094	0.024
Benzo[a]anthracene		0.00066	J	0.00020	0.0030
Chrysene		ND		0.00017	0.0030
Bis(2-ethylhexyl) phthalate		ND		0.0050	√0.18
Di-n-octyl phthalate		ND		0.00016	0.024
Benzo[a]pyrene		ND		0.00025	0.0036
Indeno[1,2,3-cd]pyrene		ND		0.00050	0.0048
Dibenz(a,h)anthracene		ND		0.00026	0.0048
Benzo[g,h,i]perylene		ND		0.00018	0.0030
Carbazole		ND		0.00051	0.018
1-Methylnaphthalene		ND	,	0.00022	0.0036
Benzo[b]fluoranthene		ND		0.00049	0.0024
Benzo[k]fluoranthene		· ND		0.00016	0.0030
2,2'-oxybis[1-chloropropane	]	ND		0.00080	0.018
Surrogate		%Rec	Qualifier	Acceptan	ce Limits

Surrogate	%Rec	Qualifier	Acceptance Limi
2-Fluorophenol	53		36 - 145
Phenol-d5	70		38 - 149
Nitrobenzene-d5	<b>40</b> .		38 - 141
2-Fluorobiphenyl	53		42 - 140
2,4,6-Tribromophenol	70		28 - 143
Terphenyl-d14	102		42 - 151

Client: TestAmerica Laboratories, Inc Job Number: 580-15385-1

6-R28-SEDØ Client Sample ID: SSI0049-04

Lab Sample ID:

580-15385-4

Client Matrix:

Solid

% Moisture: 33.1

Date Sampled: 09/07/2009 1450 Date Received: 09/11/2009 0940

Method: 8270C Preparation: 3550B

Analysis Batch: 580-50472

instrument ID: Lab File ID:

**TAC023** HP15238.D

Dilution:

1.0

Prep Batch: 580-50242

Initial Weight/Volume: 20.3292 g Final Weight/Volume:

Date Analyzed: Date Prepared: 09/18/2009 1044 09/15/2009 1010

Injection Volume:

2 mL 1.0 uL

Date Prepared: 09/15	12009 1010		Injec	tion volume:	1.0 UL
Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol	AND THE RESERVE AND A SEAL SEA STATEMENT OF STATEMENT OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF	ND		0.0011	0.015
Bis(2-chloroethyl)ether		ND		0.0015	0.015
2-Chlorophenol		ND		0.0011	0.015
1,3-Dichlorobenzene		ND UJ		0.0011	0.0074
1,4-Dichlorobenzene		ND	•	0.00047	0.0074
Benzyl alcohol		0.0017	j	0.0014	0.015
1,2-Dichlorobenzene		ND		0.00094	0.0074
2-Methylphenol		ND		0.0010	0.015
3 & 4 Methylphenol		ND		0.00082	0.029
N-Nitrosodi-n-propylamin	e	ND	•	0.0014	0.015
Hexachloroethane		ND		0.0016	0.015
Nitrobenzene		ND		0.0043	0.015
Isophorone		ND		0.00060	0.015
2-Nitrophenoi		ND UJ		0.00063	0.015
2,4-Dimethylphenol		ND ND		0.00031	0.015
Benzoic acid		ND		0.096	0.37
Bis(2-chloroethoxy)metha	ITE	ND		0.00044	0.015
2,4-Dichlorophenol		ND		0.00044	0.015
1,2,4-Trichlorobenzene		ND		0.0018	0.0074
Naphthalene		ND		0.00032	0.0029
4-Chloroaniline		ND		0.00032	0.015
Hexachlorobutadiene		ND		0.0013	0.0074
4-Chloro-3-methylphenol		ND		0.0010	0.0074
2-Methylnaphthalene		ND	•	0.0010	0.0029
Hexachlorocyclopentadie	no.			0.00034	0.0029
2,4,6-Trichlorophenol	i <del>c</del>	ND UST			
2,4,5-Trichlorophenol				0,00059	0.022
•	-	ND		0.00063	0.015
2-Chloronaphthalene	•	ND		0.00026	0.0029
2-Nitroaniline		ND		0.00062	0.015
Dimethyl phthalate		ND		0.00062	0.015
Acenaphthylene		ND.		0.00024	0.0029
2,6-Dinitrotoluene		ND		0.00060	0.015
3-Nitroaniline		ND		0.00085	0.015
Acenaphthene		ND		0.00024	0.0029
2,4-Dinitrophenol		ND UJ		0.0021	0.15
4-Nitrophenol		ND		0.025	0.15
Dibenzofuran		ND		0.00022	0.015
2,4-Dinitrotoluene			· · · · · · · · · · · · · · · · · · ·	0.00037	0.015
Diethyl phthalate		_0.0048	سط السد	0.0022	0.015 <b>V</b> C
4-Chlorophenyl phenyl eth	er .	ND		0.00084	0.015
Fluorene		ND		0.00018	0.0029
4-Nitroaniline		ND ·		0.0021	0.015
4,6-Dinitro-2-methylpheno	!	ND		0.0026	0.15
N-Nitrosodiphenylamine		ND		0.00032	0.0074
4-Bromophenyl phenyl eth	er	ND		0.00049	0.015
Hexachlorobenzene		ND		0.00056	0.0074
		•		2- <b></b>	4

TestAmerica Tacoma

Page 54 of 2262

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-04

Lab Sample ID:

580-15385-4

Client Matrix:

Solid

% Moisture:

33.1

Date Sampled: 09/07/2009 1450

Date Received: 09/11/2009 0940

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
------------------------------------------------------------------------------

Method:

8270C

Analysis Batch: 580-50472

Instrument ID:

**TAC023** 

Preparation:

3550B

Lab File ID:

HP15238.D

Dilution:

Prep Batch: 580-50242

Date Analyzed:

1.0

Initial Weight/Volume:

20.3292 g

Date Prepared:

09/18/2009 1044 09/15/2009 1010

Final Weight/Volume: Injection Volume:

2 mL 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol		ND		0.0018	0.015
Phenanthrene		ND		0.00031	0.0029
Anthracene		ND		0.00021	0.0029
Di-n-butyl phthalate		2011	-AB	0.0038	0.029 لـر
Fluoranthene		0.0011	J*	0.00018	0.0029
Pyrene		0.0010	J	0.00021	0.0029
Butyl benzyl phthalate		ND		0.0046	0.015
3,3'-Dichlorobenzidine		ND		0.0012	0.029
Benzo[a]anthracene		0.00087	J	0.00025	0.0037
Chrysene		ND		0.00021	0.0037
Bis(2-ethylhexyl) phthalate		ND		0.0062	0.22
Di-n-octyl phthalate		ND		0.00019	0.029
Benzo[a]pyrene	•	ND		0.00031	0.0044
Indeno[1,2,3-cd]pyrene		ND		0.00062	0.0059
Dibenz(a,h)anthracene		ND		0.00032	0.0059
Benzo[g,h,i]perylene		ND		0.00022	0.0037
Carbazole		ND		0.00063	0.022
1-Methylnaphthalene		ND		0.00026	0.0044
Benzo[b]fluoranthene		ND		0.00060	0.0029
Benzo[k]fluoranthene		ND		0.00019	0.0037
2,2'-oxybis[1-chloropropane	<del>)</del> ]	ND		0.00099	0.022

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	70	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	36 - 145
Phenol-d5	74 ·		38 - 149
Nitrobenzene-d5	56		38 - 141
2-Fluorobiphenyl	22	X	42 - 140
2,4,6-Tribromophenol	51		28 - 143
Terphenyl-d14	52		42 - 151

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SS10049-03

G-RS8-SE03

Lab Sample ID:

580-15385-3

Client Matrix: Solid

% Moisture: 17.4 Date Sampled: 09/07/2009 1445

Date Received: 09/11/2009 0940

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C

Analysis Batch: 580-50472

instrument ID: Lab File ID:

**TAC023** 

Dilution:

3550B 1.0

Prep Batch: 580-50242

Initial Weight/Volume; 20.7951 g

HP15237.D

Date Analyzed: Date Prepared: 09/18/2009 1023 09/15/2009 1010 Final Weight/Volume: 2 mL Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol		ND		0.00086	0.012
Bis(2-chloroethyl)ether		ND		0.0012	0.012
2-Chlorophenol		ND		0.00086	0.012
1,3-Dichlorobenzene		ND UT		0.00084	0.0058
1,4-Dichlorobenzene		ND		0.00037	0.0058
Benzyl alcohol		ND		0.0011	0.012
1,2-Dichlorobenzene	•	ND		0.00075	0.0058
2-Methylphenol	•	ND		0.00083	0.012
3 & 4 Methylphenol		<b>N</b> D		0.00065	0.023
N-Nitrosodi-n-propylamine		ND	•	0.0011	0.012
Hexachloroethane		ND		0.0013	0.012
Nitrobenzene		ND		0.0034	0.012
Isophorone		ND		0.00048	0.012
2-Nitrophenol		ND UT		0.00050	0.012
2,4-Dimethylphenol		ND		0.00024	0.012
Benzoic acid		ND		0.076	0.29
Bis(2-chloroethoxy)methan	e	ND		0.00035	0.012
2.4-Dichlorophenol		ND		0.00035	0.012
1,2,4-Trichlorobenzene		ND		0.0014	0.0058
Naphthalene		0.00048	J	0.00026	0.0023
4-Chloroaniline		ND		0.0013	0.012
Hexachlorobutadiene		ND		. 0.0011	0.0058
4-Chloro-3-methylphenol		ND		0.00083	0.012
2-Methylnaphthalene		0.00071	J ·	0.00027	0.0023
Hexachlorocyclopentadiene	)	ND UZ		0.00030	0.012
2,4,6-Trichlorophenol		ND		0.00047	0.017
2,4,5-Trichlorophenol		ND		0.00050	0.012
2-Chloronaphthalene		ND		0.00021	0.0023
2-Nitroaniline		ND		0.00049	0.012
Dimethyl phthalate		ND		0.00049	0.012
Acenaphthylene		ND		0.00019	0.0023
2,6-Dinitrotoluene	·	ND		0.00048	0.012
3-Nitroaniline		ND		88000.0	0.012
Acenaphthene		ND		0.00019	0.0023
2,4-Dinitrophenol		ND UJ 🗸		0.0016	0.12
4-Nitrophenol		ND U.J W		0.020	0.12
Dibenzofuran		ND	4	0.00017	0.012
2;4=Dinitrotoluene		ND		0.00029	0:012
Diethyl phthalate		0.0030	سكالمد	. 0.0017	0.012 <b>U</b> .
4-Chlorophenyl phenyl ethe	г	ND	_	0.00066	0.012
Fluorene		ND		0.00014	0.0023
4-Nitroaniline		ND		0.0016	0.012
4,6-Dinitro-2-methylphenol		ND		0.0021	0.12
N-Nitrosodiphenylamine		ND		0.00026	0.0058
4-Bromophenyl phenyl ethe	r	ND		0.00038	0.012
Hexachlorobenzene		ND		0.00044	0.0058

Page 52 of 2262

Job Number: 580-15385-1 Client: TestAmerica Laboratories, Inc

Client Sample ID:

SSI0049-03

Lab Sample ID:

580-15385-3

Client Matrix:

Solid

% Moisture: 17.4

Date Sampled: 09/07/2009 1445

Date Received: 09/11/2009 0940

	8270C Semivolatile C	ompounds by Gas Chroma	tography/Mass S	pectrometry (GC/	MS)
Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8270C 3550B 1.0 09/18/2009 1023 09/15/2009 1010	Analysis Batch: 580-504 Prep Batch: 580-50242	Lab Initi Fina	rument ID: File ID: al Weight/Volume: al Weight/Volume: ction Volume:	TAC023 HP15237.D 20.7951 g 2 mL 1.0 uL
Analyte	DryWt Corrects	ed: Y Result (mg/Kg)	Qualifier	MDL	RL
Pentachloropheno		ND		0.0014	0.012
Phenanthrene		ND		0.00024	0.0023
Anthracene		ND		0.00016	0.0023
Di-n-butyl phthalat	te	_0 <del>.01</del> T	سطلنيه	0.0030	0.023
Fluoranthene		0.00066	_J*	0.00014	0.0023
Pyrene		0.00078	j	0.00016	0.0023
Butyl benzyl phtha	ilate	ND		0.0036	0.012
3,3'-Dichlorobenzi	dine	ND		0.00092	0.023
Benzo[a]anthrace	ne	ND .		0.00020	0.0029
Chrysene		ND		0.00016	0.0029
Bis(2-ethylhexyl) p	ohthalate	ND		0.0049	0.17
Di-n-octyl phthalat	e	ND		0.00015	0.023
Benzo[a]pyrene		ND		0.00024	0.0035
ndeno[1,2,3-cd]py	/rene	ND		0.00049	0.0047
Dibenz(a,h)anthra	cene	ΝĐ		0.00026	0.0047
Benzo[g,h,i]peryle	ne	ND		0.00017	0.0029
Carbazole		0.00075	J	0.00050	0.017
l-Methylnaphthale		0.00027	j ,	0.00021	0.0035
Benzo[b]fluoranthe	ene	ND		0.00048	0.0023
Benzo[k]fluoranthe	ene	ND ,		0.00015	0.0029
2,2'-oxybis[1-chlor	opropane]	ND		0.00078	0.017
Surrogate		%Rec	Qualifier	Acceptan	ce Limits
2-Fluorophenol	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	74	mention and the first in the last the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second	36 - 145	de an america abhréighte agus grafas de gla de glagha bhéaghair geart a é.
henol-d5		80		38 - 149	
itrobenzene-d5		62		38 - 141	•
-Fluorobiphenyl		31	X	42 - 140	
4,6-Tribromophe	nol	86		28 - 143	
Terphenyl-d14		. <b>83</b>		<b>42 - 151</b>	



SPOKANE, WA 11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924,9290

Golder Associates, Inc.

Redmond, WA 98077

18300 NE Union Hill Rd. Suite 200

Project Name:

Avery Landing

Project Number: . Project Manager: 073-93312-03 Doug Morell

Report Created:

10/28/09 14:26

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G-RS1SED-4-090709	SSI0049-01	Soil	09/07/09 13:50	09/09/09 09:30
G-RS1SED-0-090709	SSI0049-02	Soil	09/07/09 13:55	09/09/09 09:30
G-RS8SED-3-090709	SSI0049-03	Soil	09/07/09 14:45	09/09/09 09:30
G-RS8SED-0-090709	SSI0049-04	Soil	09/07/09 14:50	09/09/09 09:30
G-RS7SED-0-090709	SS10049-05	Soil	09/07/09 15:30	09/09/09 09:30
G-RS7SED-4-090709	SSI0049-06	Soil	09/07/09 15:25	09/09/09 09:30
G-RS2SED-3-090709	SS10049-07	Soil	09/07/09 16:15	09/09/09 09:30
G-RS2SED-0-090709	SSI0049-08	Soil	09/07/09 16:20	09/09/09 09:30
G-EB-090709	SSI0049-09	Water	09/07/09 17:00	09/09/09 09:30
G-RS5SED-0-090809	SSI0049-10	Soil	09/08/09 08:30	09/09/09 09:30
G-RS5DSED-0-090809	SSI0049-11	Soil	09/08/09 08:35	09/09/09 09:30
G-RS5SED-4-090809	SSI0049-12	Soil	09/08/09 08:45	09/09/09 09:30
G-RS6SED-0-090809	SSI0049-13	Soil	09/08/09 07:40	09/09/09 09:30
G-RS6SED-3-090809	SSI0049-14	Soil	09/08/09 07:35	09/09/09 09:30
G-RS3SED-4-090809	SSI0049-15	Soil	09/08/09 11:15	09/09/09 09:30
G-RS3SED-0-090809	SS10049-16	Soil	09/08/09 11:10	09/09/09 09:30
G-RS4SED-0-090809	SSI0049-17	Soil	09/08/09 12:20	09/09/09 09:30
G-RS4SED-4-090809	SSI0049-18	Soil	09/08/09 12:25	09/09/09 09:30
TRIP BLANK	SSI0049-19	Soil	09/08/09 00:00	09/09/09 09:30

TestAmerica Spokane

tardinde Randee Decker, Project Manager The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-07

G-RSZ-SED3

Lab Sample ID:

580-15385-7

09/22/2009 1401

09/15/2009 1010

Client Matrix:

Solid

% Moisture: 22.1

Date Sampled: 09/07/2009 1615

Date Received: 09/11/2009 0940

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

1.0

Analysis Batch: 580-50679

Prep Batch: 580-50242

instrument ID:

**TAC002** Lab File ID: AT12254.D

Initial Weight/Volume: 20.2776 g Final Weight/Volume: 2 mL

Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol	THE RESIDENCE AND AND ADDRESS OF THE PROPERTY AND ADDRESS OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON	0.0021	J	0.00094	0.013
Bis(2-chloroethyl)ether		ND		0.0013	0.013
2-Chlorophenol		ND		0.00094	0.013
1.3-Dichlorobenzene		ND UJ		0.00091	0.0063
1,4-Dichlorobenzene	•	ND ~~		0.00041	0.0063
Benzyl alcohol		ND		0.0012	0.013
1,2-Dichlorobenzene		ND		0.00081	0.0063
2-Methylphenol		ND		0.00090	0.013
3 & 4 Methylphenol		ND		0.00071	0.025
N-Nitrosodi-n-propylamine	•	ND		0.0012	0.013
Hexachloroethane		ND		0.0014	0.013
Nitrobenzene		ND		0.0037	0.013
sophorone		ND		0.00052	0.013
2-Nitrophenol	•	ND UJ		0.00054	0.013
2,4-Dimethylphenol		ND ND		0.00027	0.013
Benzoic acid		0.12	J.	0.082	0.32
Bis(2-chloroethoxy)methane	ı	ND	v	0.00038	0.013
2,4-Dichlorophenol		ND		0.00038	0.013
I,2,4-Trich orobenzene		ND		0.0015	0.0063
Naphthalene		0.0050		0.00028	0.0025
l-Chloroaniline		ND		0.0014	0.013
de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de la compositación de	•	ND		0.0014	0.0063
1-Chloro-3-methylphenol	1	ND		0.00090	0.013
2-Methylnaphthalene		0.011		0.00030	0.0025
-wearymaprimaterie -lexachiorocyclopentadiene		ND UT		0.00029	0.0025
2,4,6-Trichlorophenol		ND UT 1/4		0.00051	0.019
2,4,5-Trichlorophenol		ND ND		0.00051	0.019
2,4,5°rnchlorophenor 2-Chloronaphthalene		0.0037		0.00034	0.0025
2-Nitroaniline		ND		0.00023	0.0023
Dimethyl phthalate		ND ND		0.00053	0.013
		0.0046		0.00033	0.0025
Acenaphthylene		*** - *		0.00020	0.0025
2,6-Dinitrotoluene		ND ND		0.00052	
-Nitroaniline		ND ND		0.00073	0.013 0.0025
Acenaphthene					0.002 <del>5</del> 0.13
,4-Dinitrophenol		ND UT		0.0018	
-Nitrophenol		ND .		0.022	0.13
Dibenzofuran		0.0030	J .	0.00019	0.013
4.4-Dinitrotaluene		ND		0.00032	0.013
Diethyl phthalate		_0.9041		0.0019	0.013 <b>U</b> L
I-Chiorophenyl phenyl ether		ND		0.00072	0.013
Fluorene		ND		0.00015	0.0025
-Nitroaniline		ND		0.0018	0.013
,6-Dinitro-2-methylphenol		ND		0.0023	0.13
I-Nitrosodiphenylamine		ND		0.00028	0.0063
-Bromophenyl phenyl ether		ND		0.00042	0.013
lexachlorobenzene		ND	•	0.00048	0.0063

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-07

Lab Sample ID:

580-15385-7

Client Matrix:

Solid

% Moisture:

Date Sampled: 09/07/2009 1615

Date Received: 09/11/2009 0940

8270C Semivolatile	Compounds by Gas	Chromatography/Mass	Spectrometry (GC/MS)
ATIAA ACIIIIAAIBIIIC	; COLLIDOUSIUS DY CES	OTH ONIEMON SPILA/MOSS	

22.1

Method:

8270C

Analysis Batch: 580-50679

Instrument ID:

**TAC002** 

Preparation:

Anthracene

Benzo[k]fluoranthene

Surrogate

Phenol-d5

2-Fluorophenol

Nitrobenzene-d5

2-Fluorobiphenyl

Terphenyl-d14

2.4.6-Tribromophenol

2,2'-oxybis[1-chloropropane]

3550B

Prep Batch: 580-50242

Lab File ID:

AT12254.D

Dilution:

1.0

Initial Weight/Volume:

20.2776 a

Date Analyzed:

09/22/2009 1401

Final Weight/Volume: Injection Volume:

1.0. uL

Date Prepared:	09/15/2009 1010
Analyte	DryWt Corrected: Y
Pentachloropheno	i
Phenanthrene	

ND 0.010 0.0057 2.012

0.013

0.0029

0.016

0.0078

ND

ND

ND

64

75

51

67

121

103

%Rec

Result (mg/Kg) 0.0045

Qualifier

Qualifier

0.0015 0.00027 0.00018 0.0033 0.00015 0.00018 0.0039

0.0010

0.00022

0.00018

0.0053

0.00016

MDL

RL 0.013 0.0025 0.0025 0.025 U

0.0025

0.0025

0.013

0.025

0.0032

0.0032

0.19

0.025

Di-n-butyl phthalate Fluoranthene Pyrene Butyl benzyl phthalate 3,3'-Dichlorobenzidine Benzo[a]anthracene Chrysene Bis(2-ethylhexyl) phthalate Di-n-octyl phthalate Benzo[a]pyrene Indeno[1,2,3-cd]pyrene Dibenz(a,h)anthracene Benzo[g,h,i]perylene Carbazole 1-Methylnaphthalene Benzo[b]fluoranthene

ND 0.0064 0.0064 ND 0.015 0.0023 J 0.0056 0.013 0.0015 J

0.00027 0.0038 0.00053 0.0051 0.00028 0.0051 0.00019 0.0032 0.000540.019 0.00023 0.0038 0.00052 0.0025 0.00016 0.0032 0.00085 0.019

42 - 151

Acceptance Limits 36 - 145 38 - 149 38 - 141 42 - 140 28 - 143

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-08

6-RS2-SED Ø

Lab Sample ID:

580-15385-8

Client Matrix: Solid

% Moisture: 29.1

Date Sampled: 09/07/2009 1620

Date Received: 09/11/2009 0940

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C 3550B Analysis Batch: 580-50679

Instrument ID: Lab File ID:

**TAC002** AT12255.D

Dilution:

1.0

Prep Batch: 580-50242

Initial Weight/Volume: 20.3219 g

Date Analyzed: Date Prepared:

09/22/2009 1421 09/15/2009 1010 Final Weight/Volume: Injection Volume:

2 mL 1.0 uL

			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL	
Phenol	ALTERNATION OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF	0.0055	J	0.0010	0.014	**********
Bis(2-chloroethyl)ether		ND		0.0014	0.014	
2-Chlorophenol		ND		0.0010	0.014	
1,3-Dichlorobenzene	•	ND UJ		0.0010	0.0069	
1,4-Dichlorobenzene		ND		0.00044	0.0069	
Benzyl alcohol		ND		0.0013	0.014	
1,2-Dichlorobenzene		ND		0.00089	0.0069	
2-Methylphenol		ND		0.00099	0.014	
3 & 4 Methylphenol		0.0023	J	0.00078	0.028	
N-Nitrosodi-n-propylamine		ND		0.0013	0.014	
Hexachioroethane		ND		0.0015	0.014	
Nitrobenzene		ND		0.0040	0.014	
Isophorone		ND		0.00057	0.014	
2-Nitrophenol		ND UT		0.00060	0.014	
2,4-Dimethylphenol		ND		0.00029	0.014	
Benzoic acid		0.099	J [*]	0.090	0.35	
Bis(2-chloroethoxy)methane	}	ND	-	0.00042	0.D14	
2,4-Dichlorophenol	•	ND		0.00042	0.014	
1,2,4-Trichlorobenzene		ND		0.0017	0.0069	
Naphthalene		0.0068		0.00031	0.0028	
4-Chloroaniline		ND		0.0015	0.014	
Hexachlorobutadiene		ND		0.0013	0.0069	
4-Chloro-3-methylphenol		ND		0.00099	0.014	
2-Methylnaphthalene		0.019		0.00032	0.0028	
Hexachlorocyclopentadiene		ND UJ		0.00036	0.014	
2.4.6-Trichlorophenol		ND Q3		0.00056	0.021	
2,4,5-Trichlorophenol		. ND		0.00060	0.014	
2-Chloronaphthalene		0.0013	J	0.00025	0.0028	
2-Nitroaniline	•	ND	•	0.00058	0.014	
Dimethyl phthalate	•	ND		0,00058	0.014	
Acenaphthylene		0.0025	J	0.00022	0.0028	
2,6-Dinitrotoluene		ND		0.00057	0.014	
3-Nitroaniline		ND	**	0.00080	0.014	
Acenaphthene	,	0.0016	j	0.00022	0.0028	
2,4-Dinitrophenol		ND LLT	Ū	0.0019	0.14	
4-Nitrophenol		ND BC		0.024	0.14	
Dibenzofuran		0.0032	J	0.00021	0.014	
2,4-Dinitrotoluene		ND		0.00021	0.014	
Diethyl phthalate		ND		0.00033		
4-Chlorophenyl phenyl ether	•	ND		0.0021	0.014	
Fluorene		ND ND	•	0.00079	0.014	
1-Nitroaniline		ND		0.00017	0.0028	
4,6-Dinitro-2-methylphenol		ND			0.014	
N-Nitrosodiphenylamine				0.0025	. 0.14	
4-Bromophenyl phenyl ether		ND ND		0.00031	0.0069	
+-bromophenyi phenyi ether Hexachlorobenzene		ND ND		0.00046	0.014	
iexaciiloropenzene		ND		D.00053	0.0069	

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-08

Lab Sample ID:

580-15385-8

Client Matrix:

Solid

% Moisture: 29.1 Date Sampled: 09/07/2009 1620

Date Received: 09/11/2009 0940

Method:

8270C

Analysis Batch: 580-50679

Instrument ID:

TAC002

Preparation:

3550B

Prep Batch: 580-50242

Lab File ID:

AT12255.D

Dilution:

1.0

Initial Weight/Volume: 20.3219 g

Date Analyzed:

09/22/2009 1421

Final Weight/Volume:

2 mL

Date Prepared:

09/15/2009 1010

Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol		ND	-and an extension of the solution of the	0.0017	0.014
Phenanthrene		0.010		0.00029	0.0028
Anthracene		0.0034		0.00019	0.0028
Di-n-butyl phthalate		0.0099	سلست	0.0036	0.028 K
Fluoranthene		0.0065	•	0.00017	0.0028
Pyrene		0.010		0.00019	0.0028
Butyl benzyl phthalate	•	ND		0.0043	0.014
3,3'-Dichlorobenzidine		ND		0.0011	0.028
Benzo[a]anthracene		0.0034	J.	0.00024	0.0035
Chrysene	•	0.0083		0.00019	0.0035
Bis(2-ethylhexyl) phthalate		ND		0.0058	0.21
Di-n-octyl phthalate		0.0018	J	0.00018	0.028
Benzo[a]pyrene		0.0052		0.00029	0.0042
Indeno[1,2,3-cd]pyrene		0.0043	J	0.00058	0.0056
Dibenz(a,h)anthracene		0.0017	j	0.00031	0.0056
Benzo[g,h,i]perylene		0.0074		0.00021	0.0035
Carbazole		0.0013	J	0.00060	0.021
1-Methylnaphthalene		0.0098		0.00025	0.0042
Benzo[b]fluoranthene		0.0069		0.00057	0.0028
Benzo[k]fluoranthene		0.0016	J	0.00018	0.0035
2,2'-oxybis[1-chloropropane]		ND		0.00093	0.021

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	83		36 - 145
Phenoi-d5	83		38 - 149
Nitrobenzene-d5	. 60		38 - 141
2-Fluorobiphenyl	31	X	42 - 140
2,4,6-Tribromophenol	82		28 - 143
Ternhenyl-di4	55		A2 _ 151

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Date Sampled: 09/07/2009 1700

Client Sample ID:

SSI0049-09

G-RE EB

Lab Sample ID:

580-15385-9

Client Matrix:

Water

Date Received: 09/11/2009 0940

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method:

8270C

Analysis Batch: 580-50470

Instrument ID:

SEA016

Preparation:

3510C

Prep Batch: 580-50156

Lab File ID:

SE001015.D

Dilution:

1.0

Initial Weight/Volume: Final Weight/Volume:

1060 mL

Date Analyzed:

09/18/2009 0928

1 mL

Limits

Date Prepared:

09/14/2009 0908

Injection Volume:

1 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	0.014		0.0034	0.0094
2-Methylnaphthalene	0.0079	J	0.0028	0.012
1-Methylnaphthalene	0.0048	JB	0.0011	0.0094
Acenaphthylene	0.0013	J	0.0010	0.0094
Acenaphthene	0.018	В	0.00094	0.0094
Fluorene	0.0026	JB	0.0011	0.0094
Phenanthrene	0.0034	J	0.0010	0.0094
Anthracene	0.0012	JВ	0.00075	0.0094
Fluoranthene	0.0026	JB	0.0015	0.0094
Pyrene .	ND		0.0016	0.0094
Benzo[a]anthracene	ND	į	0.0023	0.0094
Chrysene	ND		0.0020	0.0094
Benzo[b]fiuoranthene	ND	•	0.0025	0.0094
Benzo[k]fluoranthene	ND		0.0023	0.0094
Вепzо[а]ругепе	ND		0.0018	0.019
Indeno[1,2,3-cd]pyrene	ND		0.0019	0.0094
Dibenz(a,h)anthracene	ND		0.0017	0.0094
Benzo[g,h,i]peryleпe	ND .		0.0019	0.0094

Surrogate	%Rec	Qualifier	Acceptance
Nitrobenzene-d5	80		40 - 110
2-Fluorobiphenyl	71		50 - 110
Terphenyl-d14	89		50 - 135

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SS10049-10

6-RS 5-SED-Ø

Lab Sample ID:

580-15385-10

Client Matrix:

Solid .

% Moisture: 29.7

Date Sampled: 09/08/2009 0830

Date Received: 09/11/2009 0940

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

8270C 3550B

Analysis Batch: 580-50679

Instrument ID: Lab File ID:

**TAC002** AT12256.D

Dilution:

1.0

Prep Batch: 580-50242

Final Weight/Volume:

Initial Weight/Volume: 20.4987 g 2 mL

Date Analyzed: Date Prepared: 09/22/2009 1442 09/15/2009 1010

Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol		0.0023	J	0.0010	0.014
Bis(2-chloroethyl)ether		ND		0.0014	0.014
2-Chlorophenol		ND		0.0010	0.014
1,3-Dichlorobenzene		ND UJ		0.0010	0.0069
1,4-Dichlorobenzene		ND		0.00044	0.0069
Benzyl alcohol		ND		0.0013	0.014
1,2-Dichlorobenzene		ND		0.00089	0.0069
2-Methylphenol		ND		0.00099	0.014
3 & 4 Methylphenol		0.0022	J	0.00078	0.028
N-Nitrosodi-n-propylamine		ND		0.0013	0.014
Hexachloroethane		ND		0.0015	0.014
Nitrobenzene		ND	•	0.0040	0.014
Isophorone		ND		0.00057	0.014
2-Nitrophenol		ND UJ		0.00060	0.014
2,4-Dimethylphenol		ND		0.00029	0.014
Benzoic acid		0.11	J	0.090	0.35
Bis(2-chloroethoxy)methane	•	ИD		0.00042	0.014
2,4-Dichlorophenol		ND		0.00042	0.014
1,2,4-Trichlorobenzene	•	ND		0.0017	0.0069
Naphthalene		0.0081		0.00031	0.0028
4-Chloroaniline		ND		0.0015	0.014
Hexachlorobutadiene		ND		0.0013	0.0069
4-Chloro-3-methylphenol		ND		0.00099	0.014
2-Methylnaphthaiene		0.013		0.00032	0.0028
Hexachlorocyclopentadiene		ND UT		0.00036	0.014
2,4,6-Trichlorophenol		ND		0.00056	0.021
2,4,5-Trichlorophenol		ND		0.00060	0.014
2-Chloronaphthalene		ND		0.00025	0.0028
2-Nitroaniline		ND		0.0005B	0.014
Dimethyl phthalate		ND		0.00058	0.014
Acenaphthylene		0.0025	J	0.00022	0.0028
2,6-Dinitrotoluene		ND	•	0.00057	0.014
3-Nitroaniline		ND		0.00081	0.014
Acenaphthene		0.0031		0.00022	0.0028
2,4-Dinitrophenol		ND NT		0.0019	0.14
4-Nitrophenol	•	ND UCC		0.024	0.14
Dibenzofuran		0.0064	J	0.00021	0.014
2.4-Dinitrotoluene		ND		0.00035	0.014
Diethyl phthalate		_0.0039	سساد	0.0021	0.014 LL
4-Chlorophenyl phenyl ether		ND ND		0.0021	0.014
Fluorene		0.0047		0.00017	0.0028
4-Nitroaniline		ND		0.0019	0.014
4,6-Dinitro-2-methylphenol	•	ND ·		0.0019	0.14
N-Nitrosodiphenylamine		ND		0.0023	0.0069
4-Bromophenyl phenyl ether	•	ND ND		0.00031	0.014
Hexachlorobenzene	•	ND		0.00048	0.0069
HEXACIJULUDENZENE		ND	•	Q.Q0000	0.0008

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-10

Lab Sample ID:

580-15385-10

Solid

Client Matrix:

% Moisture:

Date Sampled: 09/08/2009 0830

Date Received: 09/11/2009 0940

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectro	ometry (GC/MS)	MS
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29.7

Method:

8270C

Analysis Batch: 580-50679

Instrument ID:

**TAC002** 

Preparation:

3550B

Lab File ID:

AT12256.D

Dilution:

1.0

Prep Batch: 580-50242

Date Analyzed:

Final Weight/Volume:

Initial Weight/Volume: 20.4987 g

Date Prepared:

09/22/2009 1442 09/15/2009 1010

Injection Volume:

2 mL 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol	The series species (i.e. a million 18 followers) conducted a commercial series	ND		0.0017	0.014
Phenanthrene		0.015		0.00029	0.0028
Anthracene		0,0036		0.00019	0.0028
Di-n-butyl phthalate		0.041		0.0036	0.028
Fluoranthene		0.013		0.00017	0.0028
Pyrene		0.017		0.00019	0.0028
Butyl benzyl phthalate		ND		0.0043	0.014
3,3'-Dichlorobenzidine		ND		0.0011	0.028
Benzo[a]anthracene		0.0089		0.00024	0.0035
Chrysene		0.021		0.00019	0.0035
Bis(2-ethylhexyl) phthalate		0.0076	J	0.005B	0.21
Di-n-octyl phthalate		0.0039	J	0.00018	0.028
Benzo[a]pyrene		0.0074		0.00029	0.0042
Indeno[1,2,3-cd]pyrene		0.0053	J	0.00058	0.0056
Dibenz(a,h)anthracene	*	0.0026	J	0.00031	0.0056
Benzo[g,h,i]perylene		0.0090		0.00021	0.0035
Carbazole		0.0024	J	0.00060	0.021
1-Methylnaphthalene		0.0063		0.00025	0.0042
Benzo[b]fluoranthene		0.018		0.00057	0.0028
Benzo[k]fluoranthene		0.0037		0.00018	0.0035
2,2'-oxybis[1-chloropropane	1	ND		0.00093	0.021

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	57	ده و و در وجها حصله دا این په در در در په چې هميار وسيم پاري د د دهندو د سيند د مستده د د ستند	36 - 145
Phenol-d5	78		. 38 - 149
Nitrobenzene-d5	56		38 - 141
2-Fluorobiphenyl	70		42 - 140
2,4,6-Tribromophenol	123		28 - 143
Terphenyl-d14	100		42 - 151

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-11

G-RS5D-SEDØ

Lab Sample ID:

580-15385-11

Client Matrix:

Solid

% Moisture:

29.4

Date Sampled: 09/08/2009 0835

Date Received: 09/11/2009 0940

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Analysis Batch: 580-50679

Instrument ID: Lab File ID:

**TAC002** 

2 mL

1.0 uL

Dilution:

3550B 1.0

Prep Batch: 580-50242

Initial Weight/Volume: 20.4354 g

AT12257.D

Date Analyzed: Date Prepared: 09/22/2009 1503 09/15/2009 1010 Final Weight/Volume: Injection Volume:

0.00053

0.0069

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol		ND		0.0010	0.014
Bis(2-chloroethyl)ether		ND		0.0014	0.014
2-Chlorophenol		ND		0.0010	0.014
1,3-Dichlorobenzene		ND UJ		0.0010	0.0069
1.4-Dichlorobenzene		ND		0.00044	0.0069
Benzyl alcohol		ND		0.0013	0.014
1,2-Dichtorobenzene		ND		0.00089	0.0069
2-Methylphenol		ND		0.00098	0.014
3 & 4 Methylphenol		ND		0.00078	0.028
N-Nitrosodi-n-propylamine		ND		0.0013	0.014
Hexachloroethane		ND		0.0015	0.014
Nitrobenzene		ND		0.0040	0.014
Isophorone		ND		0.00057	0.014
2-Nitrophenol		ND UJ		0.00060	0.014
2,4-Dimethylphenol		ND		0.00029	0.014
Benzoic acid		ND		0.090	0.35
Bis(2-chloroethoxy)methane	)	ND		0.00042	0.014
2,4-Dichlorophenol		ND		0.00042	0,014
1,2,4-Trichlorobenzene		ND .		0.0017	0,0069
Naphthalene		0.0045		0.00030	0.0028
4-Chloroaniline		ND		0.0015	0.014
Hexachlorobutadiene		ND		0.0013	0.0069
4-Chioro-3-methylphenol		ND		0.00098	0.014
2-Methylnaphthalene		0.0052	•	0.00032	0.0028
Hexachlorocyclopentadiene		ND UJ		0.00036	0.014
2,4,6-Trichlorophenol		ND		0.00055	0.021
2,4,5-Trichlorophenol		ND		0.00060	0.014
2-Chloronaphthalene		ND		0.00025	0.0028
2-Nitroaniline		ND		0.00058	0.014
Dimethyl phthalate		ND ·		0.00058	0.014
Acenaphthylene		0.0017	J	0.00022	0.0028
2,6-Dinitrotoluene		ND		0.00057	0.014
3-Nitroaniline		ND		0.00080	0.014
Acenaphthene		0.0044		0.00022	0.0028
2,4-Dinitrophenol		ND UJ		0.0019	0.14
4-Nitrophenol		ND		0.024	0.14
Dibenzofuran	,	0.0030	J	0.00021	0.014
-2,4-Dinitrotoluene		ND		0:00035	0.014
Diethyl phthalate		0.0043		0.0021	0.014 1
4-Chlorophenyl phenyl ether		ND		0.00079	0.014
Fluorene		0.0052		0.00017	0.0028
4-Nitroaniline		ND .		0.0019	0.014
4,6-Dinitro-2-methylphenol		ND		0.0025	0.14
N-Nitrosodiphenylamine		ND		0.00030	0.0069
4-Bromophenyl phenyl ether		ND		0.00046	0.014
11					

TestAmerica Tacoma

Hexachlorobenzene

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ND

Client: TestAmerica Laboratories, Inc .

Job Number: 580-15385-1

Client Sample ID:

SSI0049-11

Lab Sample ID:

580-15385-11

Client Matrix:

Carbazole

1-Methylnaphthalene Benzo[b]fluoranthene

Benzo[k]fluoranthene

2,2'-oxybis[1-chloropropane]

Solid

29.4 % Moisture:

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Date Sampled: 09/08/2009 0835

0.00060

0.00025

0.00057

0.00018

0.00093

Date Received: 09/11/2009 0940

0.021

0.0042

0.0028

0.0035

0.021

Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8270C 3550B 1.0 09/22/200			sis Batch: 580-50679 Batch: 580-50242		Final We		TAC002 AT12257.D 20.4354 g 2 mL 1.0 uL	
Analyte		DryWt Corrected: \	<b>r</b>	Result (mg/Kg)	Qualit	fier	MDL	RL	
Pentachloropheno	)[	ه جمعه هم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المناهم المن		ND		***************************************	0.0017	0.014	and a second second with the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
Phenanthrene				0.0084			0.00029	0.0028	<b>;</b>
Anthracene				0.0027	J		0.00019	0.0028	}
Di-n-butyl phthalat	te			0.014			0.0036	0.028	u
Fluoranthene			-	0.010			0,00017	0.0028	
Pyrene				0.011			0.00019	0.0028	}
Butyl benzyl phtha	late			ND			0.0043	0.014	
3,3'-Dichlorobenzi	dine			ND			0.0011	0.028	
Benzojajanthracei	ne .			0.0042			0.00024	0.0035	i
Chrysene				0.011			0.00019	0.0035	,
Bis(2-ethylhexyl) p	hthalate			ND			0.0058	0.21	
Di-n-octyl phthalat	e			ND			0.00018	0.028	
Benzo[a]pyrene				0.0056			0.00029	0.0042	!
Indeno[1,2,3-cd]py	/rene	-		0.0045	J		0.00058	0.0055	i
Dibenz(a,h)anthra	cene			0.0023	J		0.00030	0.0055	i
Benzo[g,h,i]peryle	ne			0.0083			0.00021	0.0035	
								0.054	

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	76		36 - 145
Phenol-d5	80		38 - 149
Nitrobenzene-d5	51		38 - 141
2-Fluorobiphenyl	57		42 - 140
2,4,6-Tribromophenol	121		28 - 143
Terphenyl-d14	91		42 - 151

ND

0.0038

0.0076

0.0021

ND

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SS10049-12

G-RS5-SED4

Lab Sample ID: Client Matrix:

580-15385-12

Solid

% Moisture: 18.0

Date Sampled: 09/08/2009 0845 Date Received: 09/11/2009 0940

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Analysis Batch: 580-50679

Instrument ID:

**TAC002** 

Preparation:

3550B

Prep Batch: 580-50242

Lab File ID:

AT12258.D

Dilution:

1.0

Final Weight/Volume:

Initial Weight/Volume: 20.4296 g

Date Analyzed: Date Prepared:

09/22/2009 1524 09/15/2009 1010

2 mL Injection Volume: 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL	
Phenol		ND	, , , , , , , , , , , , , , , , , , , ,	0.00088	0.012	
Bis(2-chloroethyl)ether		ND		0.0012	0.012	
2-Chlorophenol		ND		0.00088	0.012	
1,3-Dichlorobenzene		ND UJ		0.00086	0.0060	
1,4-Dichlorobenzene		ND		0.00038	0.0060	
Benzyl alcohol		ND		0.0011 .	0.012	
1,2-Dichlorobenzene		ND		0.00076	0.0060	
2-Methylphenol		ND		0.00085	0.012	
3 & 4 Methylphenol		ND		0.00067	0.024	
N-Nitrosodi-n-propylamine	4	ND		0.0012	0.012	
Hexachloroethane		ND		0.0013	0.012	
Nitrobenzene		ND		0.0035	0.012	
Isophorone		ND	•	0.00049	0.012	
2-Nitrophenol		ND UJ		0.00051	0.012	
2,4-Dimethylphenol		ND JC		0.00025	0.012	
Benzoic acid	·	ND		0.078	0.30	
Bis(2-chloroethoxy)methane	9	ND		0.00036	0.012	
2,4-Dichlorophenol	•	ND	•	0.00036	0.012	
1,2,4-Trichlorobenzene		ND		0.0014	0.0060	
Naphthalene		0.013		0.00026	0.0024	
4-Chloroaniline		ND		0.0013	0.012	
Hexachlorobutadiene		ND		0.0011	0.0060	
4-Chloro-3-methylphenol		ND .		0.00085	0.012	
2-Methylnaphthalene		ND		0.00027	0.0024	
Hexachlorocyclopentadiene	l .	ND UJ		0.00031	0.012	
2,4,6-Trichlorophenol		ND		0.00048	0.018	
2,4,5-Trichlorophenol		ND		0.00051	0.012	
2-Chloronaphthalene		ND		0.00021	0.0024	
2-Nitroaniline		ND		0.00050	0.012	
Dimethyl phthalate		ND		0.00050	0.012	
Acenaphthylene		ND		0.00019	0.0024	
2,6-Dinitrotoluene		ND		0.00049	0.012	
3-Nitroaniline		ND		0.00069	0.012	
Acenaphthene		0.041		0.00019	0.0024	
2,4-Dinitrophenol		ND UJ.		0.0017	0.12	
4-Nitrophenol		ND		0.020	0.12	
Dibenzofuran		ND		0.00018	0.012	
2,4-Dinitrotoluene		ND		0.00030	0:012	
Diethyl phthalate		ND		0.0018	0.012	
4-Chlorophenyl phenyl ether	·	ND		0.00068	0.012	
Fluorene		0.080		0.00014	0,0024	
4-Nitroaniline		ND		0.0017	0.012	
4,6-Dinitro-2-methylphenol		ND		0.0021	0.12	
N-Nitrosodiphenylamine		ND		0.00026	0.0060	
4-Bromophenyl phenyl ether	•	ND		0.00039	0.012	
T DIOLITOPINGITE PRICITAL CRISCI						

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-12

Lab Sample ID:

580-15385-12

Client Matrix;

Solid

% Moisture:

18.0

Date Sampled: 09/08/2009 0845

Date Received: 09/11/2009 0940

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C 3550B Analysis Batch: 580-50679

instrument ID:

**TAC002** 

Preparation:

Prep Batch: 580-50242

Lab File ID:

AT12258.D

Dilution:

1.0

Date Analyzed: Date Prepared:

Final Weight/Volume: 2 mL

Initial Weight/Volume: 20.4296 g

09/22/2009 1524 09/15/2009 1010

Injection Volume:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol		ND		0.0014	0.012
Phenanthrene		0.080		0.00025	0.0024
Anthracene		0.010		0.00017	0.0024
Di-n-butyl phthalate		ND		0.0031	0.024
Fluoranthene		0,0078		0:00014	0.0024
Pyrene		0.027		0.00017	0.0024
Butyl benzyl phthalate		ND '		0.0037	0.012
3,3'-Dichlorobenzidine		ND ·	•	0.00094	0.024
Benzo[a]anthracene		0.0059		0.00020	0.0030
Chrysene		0.013	•	0.00017	0.0030
Bis(2-ethylhexyl) phthalate		ND		0.0050	0.18
Di-n-octyl phthalate		ND		0.00016	0.024
Benzo[a]pyrene		0.0069		0.00025	0.0036
Indeno[1,2,3-cd]pyrene		0.0023	J	0.00050	0.0048
Dibenz(a,h)anthracene		ND		0.00026	0.0048
Benzo[ġ,h,i]perylene	•	0.0050		0.00018	0.0030
Carbazole		ND		0.00051	0.018
1-Methylnaphthalene		0.087		0.00021	0.0036
Benzo[b]fluoranthene		0.0052		0.00049	0.0024
Benzo[k]fluoranthene		ND		0.00016	0.0030
2,2'-oxybis[1-chloropropane	]	ND		0.00080	0.018

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	71		36 - 145
Phenol-d5	79		38 - 149
Nitrobenzene-d5	52		38 - 141
2-Fluorobiphenyl	53		42 - 140
2,4,6-Tribromophenol	103		28 - 143
Terphenyl-d14	77		42 - 151

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-13

G-RSG-SED&

Lab Sample ID:

580-15385-13

Client Matrix: Solid % Moisture: 25.0

Date Sampled: 09/08/2009 0740

Date Received: 09/11/2009 0940

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-50679

Instrument ID:

**TAC002** 

Preparation:

3550B

Prep Batch: 580-50242

Lab File ID:

AT12259.D

Dilution:

1.0

Initial Weight/Volume: 20.1655 g

Date Analyzed:

Final Weight/Volume;

Date Prepared:

09/22/2009 1545 09/15/2009 1010

Injection Volume:

2 mL 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol		0.0012	J	0.00098	0.013
Bis(2-chloroethyl)ether		ND		0.0013	0.013
2-Chlorophenoi	·	ND		0.00098	0.013
1,3-Dichlorobenzene		ND UJ		0.00095	0.0066
1,4-Dichlorobenzene		ND		0.00042	0.0066
Benzyl alcohol		ND		0.0013	0.013
1,2-Dichlorobenzene		ND		0.00085	0.0066
2-Methylphenol		ND		0.00094	0.013
3 & 4 Methylphenol		ND		0.00074	0.026
N-Nitrosodi-n-propylamine		ND		0.0013	0.013
Hexachloroethane		ND		0.0015	0.013
Nitrobenzene		ND		0.0038	0.013
Isophorone		ND		0.00054	0.013
2-Nitrophenol		ND UJ		0.00057	0.013
2,4-Dimethylphenol		ND		0.00028	0.013
Benzoic acid		ND		0.086	0.33
Bis(2-chioroethoxy)methane		ND		0.00040	0.013
2,4-Dichlorophenol		ND		0.00040	0.013
1,2,4-Trichlorobenzene		ND		0.0016	0.0066
Naphthalene		0.0016	J	0.00029	0.0026
4-Chloroaniline		ND		0.0015	0.013
Hexachlorobutadiene		ND ·		0.0012	0.0066
4-Chioro-3-methylphenoi		ND		0.00094	0.013
2-Methylnaphthalene		0.0028		0.00030	0.0026
Hexachlorocyclopentadiene		ND UJ		0.00034	0,013
2,4,6-Trichlorophenol		ND		0.00053	0.020
2,4,5-Trichlorophenol		ND		0.00057	0.013
2-Chloronaphthalene		ND		0.00024	0.0026
2-Nitroaniline		ND		0.00056	0.013
Dimethyl phthalate		ND		0.00056	0.013
Acenaphthylene		0.00098	J	0.00021	0.0026
2,6-Dinitrotoluene		ND		0.00054	0.013
3-Nitroaniline		ND		0.00077	0.013
Acenaphthene		ND		0.00021	0.0026
2,4-Dinitrophenol		ND UJ		0.0019	0.13
4-Nitrophenol		ND		0.022	0.13
Dibenzofuran		0.00093	J	0.00020	0.013
2,4-Dinitrotoluene		ND	•	0.00033	<del>0:</del> 01 <del>3</del>
Diethyl phthalate		_0.0049'		0.0020	0.013
4-Chlorophenyl phenyl ether		ND		0.00075	0.013
Fluorene		ND		0.00016	0.0026
1-Nitroaniline		ND .		0.0019	0.013
1,6-Dinitro-2-methylphenol		ND		0.0024	0.13
N-Nitrosodiphenylamine		ND		0.00029	0.0066
I-Bromophenyl phenyl ether		ND		0.00044	0.013
Hexachlorobenzene	•	ND		` 0.00050	0.0066

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-13

Lab Sample ID:

580-15385-13

Client Matrix:

Solid

% Moisture: 25.0

Date Sampled: 09/08/2009 0740 Date Received: 09/11/2009 0940

	8270C Sei	mivolatile Comp	ounds by Gas Chromato	graphy/Ma	ss Spectrometry (GC/	MS)
Method: 8270C Preparation: 3550B Dilution: 1.0 Date Analyzed: 09/22/2009 1545 Date Prepared: 09/15/2009 1010		Analysis Batch: 580-50679 Prep Batch: 580-50242		Instrument ID: Lab File ID: Initial Weight/Volume: Final Weight/Volume: Injection Volume:	TAC002 AT12259.D 20.1655 g 2 mL 1.0 uL	
Analyte		yWt Corrected: `	Y Result (mg/Kg)	Qualifie	•	RL.
Pentachloropheno			ND	~~~	0.0016	0.013
Phenanthrene	-,		0.0043		0.00028	0.0026
Anthracene			0.0020	_1	0.00019	0.0026
Di-n-butyl phthala	te		0.0024	سلس	0.0034	0.026 LL
Fluoranthene			0.014		0.00016	0.0026
Pyrene			0.013		0.00019	0.0026
Butyl benzyl phtha	alate		ND		0.0041	0.013
3,3'-Dichlorobenzi			ND		0.0010	0.026
Benzo[a]anthrace			0.0058		0.00022	0.0033
Chrysene			0.0085		0.00019	0.0033
Bis(2-ethylhexyl) p	ohthalate		0.010	J	0.0056	0.20
Di-n-octyl phthalat			ND		0.00017	0.026
Benzo[a]pyrene			0.0062		0.00028	0.0040
Indeno[1,2,3-cd]py	yrene		0.0040	j	0.00056	0.0053
Dibenz(a.h)anthra			0.0017	Ĵ	0.00029	0.0053
Benzojg,h,ijperyle	ene		0.0049		0.00020	0.0033
Carbazole			0.0011	J	0.00057	0.020
1-Methylnaphthale	ene		0.0015	J	0.00024	0.0040
Benzo[b]fluoranthe	ene		0.010		0.00054	0.0026
Benzo[k]fluoranthe	ene		0.0022	J	0.00017	0.0033
2,2'-oxybis[1-chlor	ropropane]	•	ND		0.00089	0.020
Surrogate			%Rec	Qualifie	· · · · · · · · · · · ·	ce Limits
2-Fiuorophenol	CONTRACTOR OF STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,	terrature gain, my the state of designative features and	61		36 - 145	france france and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s
Phenoi-d5		74	4 38 - 149			
Nitrobenzene-d5			47	38 - 141		
2-Fluorobiphenyl		65	42 - 140			
2,4,6-Tribromophenol		101				
Terphenyl-d14			86 42 - 151			

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-14

G-RSG-SED3

Lab Sample ID: Client Matrix:

580-15385-14

Solid

% Moisture: 31.9

Date Sampled: 09/08/2009 0735

Date Received: 09/11/2009 0940

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-50679

Instrument ID:

**TAC002** 

Preparation:

3550B

Prep Batch: 580-50242

Lab File ID:

AT12262.D

Dilution:

1.0

Initial Weight/Volume: 20.0532 g

RL

Date Analyzed:

09/22/2009 1649

Final Weight/Volume: 2 mL

Date Prepared:	09/15/2009 1010		Inject ·	tion Volume:	1.
Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	
Phenol	manufacture and the second section of the second distance appropriate the second of the second section and second	ND	.,,	0.0011	
Dic(2 chloroothyllo	thor	MD		0.0046	

Phenol		ND	(113.13)		0.0011	0.015
Bis(2-chloroethyl)ether		ND			0.0015	0.015
2-Chlorophenol		ND			0.0011	0.015
1,3-Dichlorobenzene			UJ		0.0011	0.0073
1,4-Dichlorobenzene		ND	<b>LA -</b>		0.00047	0.0073
Benzyl alcohol		ND	•		0.00047	0.015
1,2-Dichlorobenzene		ND			0.00094	0.0073
2-Methylphenol		ND			0.00094	0.0073
3 & 4 Methylphenol		0.00	20	J	0.00082	0.013
N-Nitrosodi-n-propylamine		ND	20	J	0.00082	0.029
Hexachloroethane		ND			0.0014	0.015
Nitrobenzene		ND			0.0042	
Isophorone						0.015
•		ND	~		0.00060	0.015
2-Nitrophenol		ND	ut		0.00063	0.015
2,4-Dimethylphenol		ND			0.00031	0.015
Benzoic acid		ND			0.095	0.37
Bis(2-chloroethoxy)methane		ND		-	0.00044	0.015
2,4-Dichlorophenol	•	ND			0.00044	0.015
1,2,4-Trichlorobenzene	•	ND		·	0.0018	0.0073
Naphthalene		ND			0.00032	0.0029
4-Chloroaniline		ND			0.0016	0.015
Hexachldrobutadiene		ND		•	0.0013	0.0073
4-Chloro-3-methylphenoi		ND			0.0010	0.015
2-Methylnaphthalene	•	0.00		J	0.00034	0.0029
Hexachlorocyclopentadiene			以工		0.00038	0.015
2,4,6-Trichlorophenol		ND			0.00059	0.022
2,4,5-Trichlorophenol		ND			0.00063	0.015
2-Chloronaphthalene		ND			0.00026	0.0029
2-Nitroaniline		ND			0.00062	0.015
Dimethyl phthalate		ND			0.00062	0.015
Acenaphthylene		ND			0.00023	0.0029
2,6-Dinitrotoluene		0.00	31	J	0.00060	0.015
3-Nitroaniline	•	ND			0.00085	0.015
Acenaphthene		ND			0.00023	0.0029
2,4-Dinitrophenol		ND	ut Tu		0.0021	0.15
1-Nitrophenol		ND	<b>-</b>		0.025	0.15
Dibenzofuran		ND			0.00022	0.015
2,4-Dinitrotoluene		ND.			-0.00037	0.015
Diethyl phthalate	•	ND			0.0022	0.015
1-Chlorophenyl phenyl ether		ND			0.00084	0.015
Fluorene		ND	•		0.00018	0.0029
I-Nitroaniline		ND			0.0021	0.015
I,6-Dinitro-2-methylphenol		ND			0.0026	0.15
N-Nitrosodiphenylamine		ND			0.00032	0.0073
I-Bromophenyl phenyl ether		ND			0.00032	0.0073
lexachlorobenzene		ND			0.00048	0.0073
IONEGIADI ODGI IZGITE		NU		•	V.00000	0.0073

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-14

Lab Sample ID:

580-15385-14

Client Matrix:

Solid

% Moisture:

31.9

Date Sampled: 09/08/2009 0735

Date Received: 09/11/2009 0940

Method:

8270C 3550B Analysis Batch: 580-50679

Instrument ID:

**TAC002** 

Preparation: Dilution:

Prep Batch: 580-50242

Lab File ID: Initial Weight/Volume: 20.0532 g

AT12262.D

0.022

Date Analyzed: Date Prepared: 1.0 09/22/2009 1649

Final Weight/Volume: 2 mL Injection Volume: 1.0 uL

0.00098

09/15/2009 1010

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol	nts ettimiseetti (ettimi 1246) p kittimistisiksimistisiksimiseettimiseetti	ND		0.0018	0.015
Phenanthrene		0.0014	J	0.00031	0.0029
Anthracene		0.00081	J	0.00021	0.0029
Di-n-butyl phthalate		0.00961		0.0038	0.029 👢
Fluoranthene		0.0016	J	0.00018	0.0029
Pyrene		ND		0.00021	0.0029
Butyl benzyl phthalate		ND		0.0045	0.015
3,3'-Dichlorobenzidine		ND	•	0.0012	0.029
Benzo[a]anthracene	•	0.00042	J	0.00025	0.0037
Chrysene		0.0033	j	0.00021	0.0037
Bis(2-ethylhexyl) phthalate		0.0068	J	0.0062	0.22
Di-n-octyl phthalate		ND		0.00019	0.029
Benzo[a]pyrene	•	0.00098	J	0.00031	0.0044
Indeno[1,2,3-cd]pyrene		0.0016	J	0.00062	0.0059
Dibenz(a,h)anthracene		ND		0.00032	0.0059
Benzo[g,h,i]perylene	•	0.0023	J	0.00022	0.0037
Carbazole		ND		0.00063	0.022
1-Methylnaphthalene		0.00097	J ·	0.00026	0.0044
Benzo[b]fluoranthene	•	0.0015	j	0.00060	0.0029
Benzo[k]fluoranthene		0.00061	J	0.00019	0.0037

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	51		36 - 145
Phenol-d5	55		38 - 149
Nitrobenzene-d5	. 48	i .	38 - 141
2-Fluorobiphenyl	31	X	42 - 140
2,4,6-Tribromophenol	63		28 - 143
Terphenyl-d14	67	•	42 - 151

ND

2,2'-oxybis[1-chloropropane]

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-15

G-RS3-SED4

Lab Sample ID:

580-15385-15

Client Matrix: Solid

% Moisture:

16.8

Date Sampled: 09/08/2009 1115

Date Received: 09/11/2009 0940

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C Analysis Batch: 580-50472 Instrument ID: **TAC023** Preparation: 3550B Prep Batch: 580-50242 Lab File ID: HP15250.D Dilution: 10 Initial Weight/Volume: 20.4612 g Final Weight/Volume: Date Analyzed: 09/18/2009 1450 2 mL Date Prepared: 09/15/2009 1010 Injection Volume: 1.0 uL Analyte DryWt Corrected: Y Result (mg/Kg) Qualifier MDL RL Phenol 0.0087 0.12 ND Bis(2-chloroethyl)ether ND 0.012 0.12 2-Chlorophenol ND 0.0087 0.12 以丁 1,3-Dichlorobenzene ND 0.0085 0.059 1,4-Dichlorobenzene ND 0.0038 0.059 Benzyl alcohol ND 0.011 0.12 1,2-Dichlorobenzene ND 0.0075 0.059 2-Methylphenol ND 0.0083 0.12 3 & 4 Methylphenol ND 0.0066 0.23 N-Nitrosodi-n-propylamine ND 0.011 0.12 Hexachloroethane ND 0.013 0.12 Nitrobenzene ND 0.034 0.12 Isophorone 0.0048 0.022 0.12 2-Nitrophenol ND UJ 0.0051 0.12 2,4-Dimethylphenol ND 0.0025 0.12 Benzoic acid ND 0.76 2.9 Bis(2-chloroethoxy)methane ND 0.0035 0.12 2,4-Dichlorophenol ND 0.0035 0.12 1,2,4-Trichlorobenzene ND 0.014 0.059 Naphthalene ND 0.0026 0.023 4-Chloroaniline ND 0.013 0.12 Hexachlorobutadiene ND 0.011 0.059 4-Chloro-3-methylphenol 0.0083 ND 0.12 2-Methylnaphthalene 0.016 0.0027 0.023 Hexachlorocyclopentadiene ND US 0.0031 0.12 2,4,6-Trichlorophenol ND 0.0047 0.18 2,4,5-Trichlorophenol ND 0.0051 0.12 2-Chloronaphthalene ND 0.0021 0.023 2-Nitroaniline ND 0.0049 0.12 Dimethyl phthalate ND 0.0049 0.12 Acenaphthylene ND 0.0019 0.023 2.6-Dinitrotoluene ND 0.0048 0.12 3-Nitroaniline ND 0.0068 0.12 Acenaphthene 0.18 0.0019 0.023 2,4-Dinitrophenol ND 0.016 1.2 4-Nitrophenol ND 0.20 1.2 Dibenzofuran ND 0.0018 0.12 2,4-Dinitrotoluene ND 0:0029 0.12 Diethyl phthalate ND 0.018 0.12 4-Chlorophenyl phenyl ether ND 0.0067 0.12 Fluorene 0.17 0.0014 0.023

TestAmerica Tacoma

Hexachlorobenzene

4,6-Dinitro-2-methylphenol

4-Bromophenyl phenyl ether

N-Nitrosodiphenylamine

4-Nitroaniline

Page 75 of 2262

0.016

0.021

0.0026

0.0039

0.0045

0.12

1.2

0.059

0.12

0.059

ND

ND

ND

ND

ND

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-15

Lab Sample ID:

580-15385-15

Client Matrix:

Solid

% Moisture:

16.8

Date Sampled: 09/08/2009 1115

Date Received: 09/11/2009 0940

Method: Preparation: 8270C

Analysis Batch: 580-50472

Instrument ID:

**TAC023** 

Dilution:

3550B

Prep Batch: 580-50242

Lab File ID:

HP15250.D Initial Weight/Volume: 20.4612 g

Date Analyzed:

10

Final Weight/Volume: Injection Volume:

2 mL 1.0 uL

09/18/2009 1450 Date Prepared: 09/15/2009 1010

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol		ND		0.014	0.12
Phenanthrene		0.48		0.0025	0.023
Anthracene		0.10		0.0016	0.023
Di-n-butyl phthalate		ND		0.031	0.23
Fluoranthene		0.15	*	0.0014	0.023
Pyrene		0.54		0.0016	0.023
Butyl benzyl phthalate		ND		0.036	0.12
3,3'-Dichlorobenzidine		ND		0.0093	0.23
Benzo[a]anthracene		0.10		0.0020	0.029
Chrysene		0.29		0.0016	0.029
Bis(2-ethylhexyl) phthalate		ND		0.049	1.8
Di-n-octyl phthalate		ND		D.0015	0.23
Benzo[a]pyrene		0.097		0.0025	0.035
Indeno[1,2,3-cd]pyrene		0.025	J	0.0049	0.047
Dibenz(a,h)anthracene	•	ND		0.0026	0.047
Benzo[g,h,i]perylene		0.038		0.0018	0.029
Carbazole		ND .	,	0.0051	0.18
1-Methylnaphthalene		0.11		0.0021	0.035
Benzo[b]fluoranthene		0.078		0.0048	0.023
Benzo[k]fluoranthene		0.027	J.	0.0015	0.029
2,2'-oxybis[1-chloropropane	<del>2</del> ]	ND		0.0079	0.18

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	0	X D	36 - 145
Phenol-d5	0	X D	38 - 149
Nitrobenzene-d5	0 .	X D [.]	38 - 141
2-Fluorobiphenyl	0	X D	42 - 140
2,4,6-Tribromophenol	0	XD	28 - 143
Terphenyl-d14	0	X D	42 - 151

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-16

G-RS3-SEDØ

Lab Sample ID:

580-15385-16

Client Matrix:

% Moisture: 27.9 Solid

Date Sampled: 09/08/2009 1110

Date Received: 09/11/2009 0940

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Analysis Batch: 580-50472

Instrument ID:

**TAC023** 

Preparation:

3550B

Prep Batch: 580-50242

Lab File ID:

HP15251.D

Dilution:

10

Date Analyzed:

Initial Weight/Volume: 20.2664 g

09/18/2009 1511

Final Weight/Volume:

2 mL

Date	Milalyzeu.	USI
Date	Prepared:	09/

/15/2009 1010

Injection Volume: 1.0 uL

Date Hepared. Usi 15/2005 10 10			111,00	injection volume.		
Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL	
Phenol	ers in gebiedelt geseinen im je. It debte dit ja gaperreppingsjagenderingsgranderings er er	ND	((- <del></del>	0.010	0.14	
Bis(2-chloroethyl)ethe	er .	ND		0.014	0.14	
2-Chlorophenol		ND		0.010	0.14	
1,3-Dichlorobenzene		ND 以丁		0.0099	0.068	
1,4-Dichlorobenzene		ND		0.0044	0.068	
Benzyl alcohol		ND		0.013	0.14	
1,2-Dichlorobenzene		ND		0.0088	0.068	
2-Methylphenol		ND		0.0097	0.14	
3 & 4 Methylphenol	į	ND		0.0077	0.27	
N-Nitrosodi-n-propylar	mine	ND		0.013	0.14	
Hexachloroethane		ND		0.015	0.14	
Nitrobenzene		ND		0.040	0.14	
Isophorone		ND		0.0056	0.14	
2-Nitrophenol	•	ND UJ		0.0059	0.14	
2,4-Dimethylphenol		ND		0.0029	0,14	
Benzoic acid		ND		0.89	3.4	
Bis(2-chloroethoxy)me	ethane	ND		0.0041	0.14	
2,4-Dichlorophenol	Julian 10	ND		0.0041	0.14	
1,2,4-Trichlorobenzen	<b>.</b>	ND		0.016	0.068	
Naphthalene		ND		0.0030	0.027	
4-Chloroaniline		ND		0.015	0.14	
Hexachlorobutadiene		ND		0.012	0.068	
4-Chloro-3-methylpher	pol	ND		0.0097	0.14	
2-Methylnaphthalene	1101	0.0055	J	0.0031	0.027	
Hexachiorocyclopenta	diene	ND UJ	u	0.0036	0.14	
2,4,6-Trichlorophenol	ÇICI IC	ND U.J		0.0055	0.21	
2,4,5-Trichlorophenol	_	ND		0.0059	0.14	
2-Chloronaphthalene		ND		0.0025	0.027	
2-Nitroaniline		ND		0.0057	0.14	
Dimethyl phthalate		ND		0.0057	0.14	
Acenaphthylene		ND		0.0022	0.027	
2,6-Dinitrotoluene		ND		0.0056	0.14	
3-Nitroaniline		ND		0.0079	0.14	
Acenaphthene		0.032		0.0022	0.027	
2,4-Dinitrophenol		ND UJ		0.019	1.4	
4-Nitrophenol		ND CC3		0.23	1,4	
Dibenzofuran		ND		0.0021	0.14	
2,4-Dinitrotoluene		ND		0:0034	0:14 	
Diethyl phthalate		ND ND		` 0.021	0.14	
4-Chiorophenyl phenyl	ather	ND		0.021	0.14 0.14	
Fluorene	Guiel	0.059	•	0.0076	0.14 0.027	
4-Nitroaniline		ND		0.0016	0.027 0.14	
4,6-Dinitro-2-methylpho	anol	ND.	1	0.019	1.4	
4,6-ยแบบ-2-meunyiph N-Nitrosodiphenylamin				0.025		
		ND ND		0.0030	0.068	
4-Bromophenyl phenyl	eu ie≀	ND			0.14	
Hexachlorobenzene		ND		0.0052	0.068	

Job Number: 580-15385-1

Client: TestAmerica Laboratories, Inc

Client Sample ID:

SSI0049-16

Lab Sample ID:

580-15385-16

Client Matrix:

Solid

% Moisture:

27.9

Date Sampled: 09/08/2009 1110

Date Received: 09/11/2009 0940

Method:

8270C

Analysis Batch: 580-50472

Instrument ID:

**TAC023** 

Preparation:

3550B

Prep Batch: 580-50242

Lab File ID:

HP15251.D

Dilution:

Date Analyzed:

Initial Weight/Volume: 20.2664 g

Date Prepared:

09/18/2009 1511 09/15/2009 1010 Final Weight/Volume: Injection Volume:

2 mL 1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL ·
Pentachlorophenol	rapropulationalis grims (1979-12) paparatus, agripuspadamentania patronatural	ND	Pro-	0.016	0.14
Phenanthrene		0.078		0.0029	0.027
Anthracene		0.017	J	0.0019	0.027
Di-n-butyl phthalate		ND		0.036	0.27
Fluoranthene		ND	*	0.0016	0.027
Pyrene		0.092		0.0019	0.027
Butyl benzyl phthalate		ND		0.042	0.14
3,3'-Dichlorobenzidine		ND ·		0.011	0.27
Benzo[a]anthracene		ND		0.0023	0.034
Chrysene		ND		0.0019	0.034
Bis(2-ethylhexyl) phthalate	•	ND		0.057	2.1
Di-n-octyl phthalate		ND		0.0018	0.27
Benzo[a]pyrene		ND		0.0029	0.041
Indeno[1,2,3-cd]pyrene		ND		0.0057	0.055
Dibenz(a,h)anthracene		ND		0.0030	0.055
Benzo[g,h,i]perylene		0.028	J	0.0021	0.034
Carbazole		ND		0.0059	0.21
1-Methylnaphthalene		0.050	•	0.0025	0.041
Benzo[b]fluoranthene		ND		0.0056	0.027
Benzo[k]fluoranthene		ND		0.0018	0.034
2,2'-oxybis[1-chloropropar	e]	ND		0.0092	0.21

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	0	ХD	36 - 145
Phenol-d5	0	ΧD	38 - 149
Nitrobenzene-d5	0	X D	38 141
2-Fluorobiphenyl	0	X D	42 - 140
2,4,6-Tribromophenol	0	X D	28 - 143
Terphenyl-d14	0	X D	42 - 151

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-17

G-RS4-SEDØ

Lab Sample ID: Client Matrix;

580-15385-17

Solid

% Moisture:

Date Sampled: 09/08/2009 1220

Date Received: 09/11/2009 0940

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-50472

Instrument ID:

**TAC023** 

Preparation:

3550B

Prep Batch: 580-50242

Lab File ID:

HP15252.D

Dilution:

Initial Weight/Volume:

20.2801 g

10

Final Weight/Volume:

2 mL

Date Analyzed: Date Prepared:

09/18/2009 1531 09/15/2009 1010

Injection Volume:

Date Prepared: 09/15/	2009 1010		Injec	tion Volume:	1.0 uL
Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Phenol	A an half was and a substance with total a transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the transfer of the tra	ND		0.0087	0.12
Bis(2-chloroethyl)ether		ND		0.012	0.12
2-Chlorophenol		ND		0.0087	0.12
1,3-Dichlorobenzene		ND UJ		0.0085	0.059
1,4-Dichlorobenzene		ND		0.0038	0.059
Benzyl alcohol		ND		0.011	0.12
1,2-Dichlorobenzene		ND		0.0076	0.059
2-Methylphenol		ND		0.0084	0.12
3 & 4 Methylphenol		ND		0.0066	0.24
N-Nitrosodi-n-propylamine		ND		0.011	0.12
Hexachloroethane		ND		0.013	0.12
Nitrobenzene		ND		0.034	0.12
Isophorone		ND		0.0048	0.12
2-Nitrophenol		ND UJ		0.0051	0.12
2,4-Dimethylphenol		ND ND		0.0025	0.12
Benzoic acid		ND		0.77	3.0
Bis(2-chloroethoxy)methan	ie.	ND		0.0035	0.12
2,4-Dichlorophenol		ND		0.0035	0.12
1,2,4-Trichlorobenzene		ND		0.014	0.059
Naphthalene		ND		0.0026	0.039
4-Chloroaniline		ND		0.0020	0.024
Hexachlorobutadiene		ND		0.013	
4-Chloro-3-methylphenol		ND		0.0084	0.059
2-Methylnaphthalene		0.47		0.0027	0.12
Hexachlorocyclopentadiene	<b>a</b>			0.0027	0.024
2,4,6-Trichlorophenol	<b>5</b>	ND UJ ND UJ			0.12
2,4,5-Trichlorophenol		ND ND		0.0047	0.18
2-Chloronaphthalene		ND		0.0051	0.12
2-Mitroaniline				0.0021	0.024
		ND ND		0.0050	0.12
Dimethyl phthalate	÷	ND		0.0050	0.12
Acenaphthylene	•	ND		0.0019	0.024
2,6-Dinitrotoluene		ND		0.0048	0.12
3-Nitroaniline		ND		0.0069	0.12
Acenaphthene		1.9		0.0019	0.024
2,4-Dinitrophenol		ND UJ		0.017	1.2
4-Nitrophenol		ND		0.20	1.2
Dibenzofuran		ND		0.0018	0.12
2,4-Dinitrotoluene		ND		0,0030	0.12
Diethyl phthalate		ND		0.018	0.12
4-Chlorophenyl phenyl ethe	er .	ND		0.0067	0.12 .
Fluorene		3.1		0.0014	0.024
4-Nitroaniline		ND		0.017	0.12
4,6-Dinitro-2-methylphenol	:	ND		0.021	1,2
N-Nitrosodiphenylamine		ND		0.0026	0.059
4-Bromopheлуl phenyl ethe Hexachlorobenzene	r	ND		0.0039	0.12

Client: TestAmerica Laboratories, Inc.

Job Number: 580-15385-1

Client Sample ID:

SSI0049-17

Lab Sample ID:

Date Analyzed:

Date Prepared:

580-15385-17

Client Matrix:

Solid

% Moisture:

16.5

Date Sampled: 09/08/2009 1220

Date Received: 09/11/2009 0940

8270C Semivolatile Compounds	v Gas Chromatography/Mass	Spectrometry (GC/MS)
OFLOG BEHMACIANIE COMPONINGS	iy Gas Cilibilia(bujapily/illiass	obecinomical A focusios

Method: Preparation: Dilution:

8270C 3550B

10

Analysis Batch: 580-50472

Prep Batch: 580-50242

Instrument ID: Lab File ID:

**TAC023** 

Initial Weight/Volume:

HP15252.D 20.2801 g

2 mL

09/18/2009 1531 09/15/2009 1010 Final Weight/Volume: Injection Volume:

1.0 uL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Pentachlorophenol	a service de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la faction de la	ND		0.014	0.12
Phenanthrene		5.0		0.0025	0.024
Anthracene		0.23		0.0017	0.024
Di-n-butyl phthalate		ND		0.031	0.24
Fluoranthene		0.68	*	0.0014	0.024
Pyrene		2.3		0.0017	0.024
Butyl benzyl phthalate		NĎ		0.037	0.12
3,3'-Dichlorobenzidine		ND		0.0093	0.24
Benzo[a]anthracene		0.48		0.0020	0.030
Chrysene		1.0		0.0017	0.030
Bis(2-ethylhexyl) phthalate		ND		0,050	1.8
Di-n-octyl phthalate		ND		0.0015	0.24
Benzo[a]pyrene	•	ND		0.0025	0.035
Indeno[1,2,3-cd]pyrene		ND		0.0050	0.047
Dibenz(a,h)anthracene		ND		0.0026	0.047
Benzo[g,h,i]perylene	•	0.12		0.0018	0.030
Carbazole		ND		0.0051	0.18
1-Methylnaphthalene		5.0	•	0.0021	0.035
Benzo[b]fluoranthene		ND		0.0048	0.024
Benzo[k]fluoranthene		ND		0.0015	0.030
2,2'-oxybis[1-chloropropane	)	ND		0.0079	0.18

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorophenol	0	ΧD	36 - 145
Phenol-d5	0	X D	38 - 149
Nitrobenzene-d5	0	X D	38 - 141
2-Fluorobiphenyl	0	X D	42 - 140
2,4,6-Tribromophenoi	0	X D	28 - 143
Terphenyi-d14	0	XD	42 - 151

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-18

G-RS4-SED4

Lab Sample ID: Client Matrix:

580-15385-18

Solid

· % Moisture: 13.4

Date Sampled: 09/08/2009 1225

Date Received: 09/11/2009 0940

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

8270C

Analysis Batch: 580-50472

Instrument ID: Lab File ID:

**TAC023** HP15253.D 20.2828 g

Dilution:

3550B 10

Prep Batch: 580-50242

Initial Weight/Volume: Final Weight/Volume: Injection Volume:

2 mL

Date Analyzed: Date Prepared:

09/18/2009 1552 09/15/2009 1010

	rrected: Y Result (mg/Kg)	Qualifier	MDL	RL	
Phenol	ND		0.0084	0.11	
Bis(2-chloroethyl)ether	ND		0.011	0.11	
2-Chlorophenol	ND		0.0084	0.11	
1,3-Dichlorobenzene	ND UJ		0.0082	0.057	
,4-Dichlorobenzene	ND		0.0036	0.057	
Benzyl alcohol	ND		0.011	0.11	
,2-Dichlorobenzene	ND		0.0073	0.057	
P-Methylphenol	ND		0.0081	0.11	
8 & 4 Methylphenol	ND		0.0064	0.23	
N-Nitrosodi-n-propylamine	ND		0.011	0.11	
lexachloroethane	ND		0.013	0.11	
litrobenzene	ND		0.033	0.11	
sophorona	ND		0.0047	0.11	
-Nitrophenoi	ND UJ		0.0049	0.11	
,4-Dimethylphenol	ND		0.0024	0.11	
Benzoic acid	ND		0.74	2.8	
Bis(2-chloroethoxy)methane	ND		0.0034	0.11	
,4-Dichlorophenol	ND		0.0034	0.11	
,2,4-Trichlorobenzene	ND		0.014	0.057	
laphthalene	ND		0.0025	0.023	
-Chloroaniline	, ND		0.013	0.11	
lexachlorobutadiene	ND		0.010	0.057	
-Chloro-3-methylphenol	ND		0.0081	0.11	
-Methylnaphthalene	0.0048	J	0.0026	0.023	
lexachlorocyclopentadiene	ND UJ	•	0.0030	0.11	
.4.6-Trichiorophenol	ND		0.0046	0.17	
4,5-Trichlorophenol	ND		0.0049	0.11	
-Chioronaphthalene	ND		0.0020	0.023	
-Nitroaniline	ND		0.0048	0.11	
imethyl phthalate	ND		0.0048	0.11	
cenaphthylene	ND		0.0018	0.023	
,6-Dinitrotoluene	ND		0.0047	0.11	
-Nitroaniline	ND		0.0066	0.11	
cenaphthene	ND		0.0018	0.023	
,4-Dinitrophenol	ND UJ		0.016	1.1	
-Nitrophenol	ND ND		0.19	1.1	
ibenzofuran	ND		0.0017	0.11	
4-Dinitrotoluene	ND		0.0028	0.11	
iethyl phthalate	ND		0.0020	0.11	
-Chlorophenyl phenyl ether	ND		0.0065	0.17	
luorene	ND		0.0014	0.023	
-Nitroaniline	ND		0.016	0.11	
,6-Dinitro-2-methylphenol	ND		0.020	1.1	
-Nitrosodiphenylamine	ND		0.0025	0.057	
			w.www	0.001	
-Bromophenyl phenyl ether	ND		0.0038	0.11	

TestAmerica Tacoma

Page 81 of 2262

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-18

Lab Sample ID:

580-15385-18

Client Matrix:

Solid

% Moisture: 13.4

Date Sampled: 09/08/2009 1225

Date Received: 09/11/2009 0940

Oliciit Iylduix.	QUILL			70 MODSIGIE. 10.4		Date Net	ceived. 08/1 1/2009 0340
	8270C Ser	nivolatile Comp	ounds	by Gas Chromatog	raphy/Mas	ss Spectrometry (GC/	MS)
Method: Preparation: Dilution: Date Analyzed: Date Prepared:	8270C 3550B 10 09/18/2009 09/15/2009		•	sis Batch: 580-50472 Batch: 580-50242		Instrument ID: Lab Fite ID: Initial Weight/Volume: Final Weight/Volume: Injection Volume:	TAC023 HP15253.D 20.2828 g 2 mL 1.0 uL
Analyte	Dry	yWt Corrected: Y	1	Result (mg/Kg)	Qualifie	r MDL	RL
Pentachioropheno Phenanthrene Anthracene Di-n-butyl phthalat		igación d'agustrago, servir administrator ( en s.). F	ePija — Propidanti gla	ND ND ND ND	// <b>7,341, 6.44 (1795) ***************</b> *********************	0.014 0.0024 0.0016 0.030	0.11 0.023 0.023 0.23
Fluoranthene Pyrene Butyl benzyl phtha	ılate			0.0065 0.023 ND	J*	0.0014 0.0016 0.035	0.023 0.023 0.11
3,3'-Dichlorobenzii Benzo[a]anthracer Chrysene Bis(2-ethylhexyl) p	ne			ND 0.0035 ND	J	0.0090 0.0019 0.0016 0.048	0.23 0.028 0.028 1.7
Di-n-octyl phthalat Benzo[a]pyrene Indeno[1,2,3-cd]py	e yrene			ND ND ND	·	0.0015 0.0024 0.0048	0.23 0.034 0.046
Dibenz(a,h)anthrac Benzo[g,h,i]perylei Carbazole 1-Methylnaphthale	ne			ND ND ND 0.0033	J	0.0025 0.0017 0.0049 0.0020	0.046 0.028 0.17 0.034
Benzo[k]fluoranthe Benzo[k]fluoranthe 2,2'-oxybis[1-chlore	ene ene			ND ND ND	· ·	0.0047 0.0015 0.0076	0.023 0.028 0.17
Surrogate				%Rec	Qualifie		ce Limits
2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl				0 0 0 0	X D X D X D X D	36 - 145 38 - 149 38 - 141 42 - 140	•
2,4,6-Tribromophel Terphenyl-d14	noi			0 0	X D X D	28 - 143 42 - 151	

Client: TestAmerica Laboratories, Inc

Job Number: 580-15385-1

Client Sample ID:

SSI0049-09

Lab Sample ID:

580-15385-9

Client Matrix:

Water

Date Sampled: 09/07/2009 1700 Date Received: 09/11/2009 0940

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography
-------------------------------------------------------------

Method: 8082 Preparation: 3510C Dilution: 1.0 Date Analyzed: Date Prepared:

Analysis Batch: 580-52626

Instrument ID:

TAC034

Prep Batch: 580-52855

Initial Weight/Volume: 1060 mL Final Weight/Volume:

1 mL

10/23/2009 1413 09/14/2009 0857

Injection Volume:

Result Type:

PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL	
PCB-1016	ND	, 4 mm/m,4 74,194,	0,0042	0.047	
PCB-1221	ND		0.0058	0.047	
PCB-1232	ND ·		0.0039	0.047	
PCB-1242	ND		0.0039	0.047	
PCB-1248	ND		0.0067	0.047	
PCB-1254	ND		0.0042	0.047	
PCB-1260	ND		0.0037	0.047	

Surrogate	%Rec	Qualifier	Acceptance Limits	
Tetrachloro-m-xylene	86		60 - 150	
DCB Decachlorobiphenyl	58		40 - 135	



SPOKANE, WA

Golder Associates, Inc.

Project Name: Avery Landing

18300 NE Union Hill Rd. Suite 200

Project Number: 073-93312-03

Redmond, WA 98077

Project Manager: Doug Morell 10/28/09 14:26

#### Mercury (CVAA) TestAmerica Tacoma Analyte Method Result MDL* MRL Units Dil Batch Prepared Analyzed Notes SSI0049-01 (G-RS1SED-4-090709) Soil Sampled: 09/07/09 13:50 09/22/09 11:48 09/22/09 14:28 7471 A Dry 0,0074 0.024 mg/Kg dry 50676 Mercury 0.061 Sampled: 09/07/09 13:55 SSI0049-02 (G-RS1SED-0-090709) Soil 7471A Dry 0.028 mg/Kg dry 50676 09/22/09 11:48 09/22/09 14:32 Mercury ND 0.0087 Sampled: 09/07/09 14:45 Soil SSI0049-03 (G-RS8SED-3-090709) Метсшту 7471A Diy ND 0.0070 0,022 mg/Kg dry 50676 09/22/09 11:48 09/22/09 14:36 SSI0049-04 (G-RS8SED-0-090709) Soil Sampled: 09/07/09 14:50 09/22/09 11:48 7471A Dry 0.0084 0,027 mg/Kg dry 1x 09/22/09 14:40 0.026 Mercury Soil Sampled: 09/07/09 15:30 SS10049-05 (G-RS7SED-0-090709) 7471A Dry ND 0.0082 0.026 mg/Kg dry 09/22/09 11:48 09/22/09 14:44 Мегсцгу (G-RS7SED-4-090709) Soil Sampled: 09/07/09 15:25 SS10049-06 09/22/09 11:48 09/22/09 14:49 7471 A Dry 0.0075 0,024 mg/Kg dry Mercury ND Sampled: 09/07/09 16:15 Soft SSI0049-07 (G-RS2SED-3-090709) 7471A Dry ND 0.0077 0.024 mg/Kg dry 50676 09/22/09 11:48 09/22/09 15:01 Могошу SSI0049-08 (G-RS2SED-0-090709) Soil Sampled: 09/07/09 16:20 0.021 0,025 mg/Kg dry 09/22/09 11:48 09/22/09 15:05 7471A Dry 0.0078 Mercury Sampled: 09/07/09 17:00 SSI0049-09 (G-EB-090709) Water 7470A 0.000041 09/23/09 15:17 09/23/09 17:35 ND Мегсшу Soil Sampled: 09/08/09 08:30 SS10049-10 (G-RS5SED-0-090809) 7471A Dry ND 0.0080 0.025 mg/Kg dry 50676 09/22/09 11:48 09/22/09 15:10 Mercury (G-RS5DSED-0-090809) Soil Sampled: 09/08/09 08:35 SSI0049-11

0.026 mg/Kg dry

50676

Мегешту

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

09/22/09 11:48

09/22/09 15:15

Randee Decker, Project Manager

7471A Dry



0.0081

ND



SPOKANE, WA

11922 E. 15T AVENUE SPOKANE VALLEY, WA 99206-5302 ph: (509) 924.9200 fax: (509) 924.9290

Golder Associates, Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA 98077

Project Name: Project Number: **Avery Landing** 073-93312-03

 073-93312-03
 Report Created:

 Doug Morell
 10/28/09 14:26

				Mercur TestAme	- •	-					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
SSI0049-12	(G-RS5SED-4-090809)		Soi	į!		Samp	led: 09/0	8/09 08:45	-		
Mercury		747] A Dry	0,013	0.0068	0.022	mg/Kg dry	lx	50676	09/22/09 11:48	09/22/09 15:19	
SSI0049-13	(G-RS6SED-0-090809)		Soi	t		Samp	led: 09/0	8/09 07:40			
Mercury		7471 A Dry	0.020	0.0083	0,026	mg/Kg dry	lx	50676	09/22/09 11:48	09/22/09 14:11	
SS10049-14	(G-RS6SED-3-090809)		Soi	1		Samp	led: 09/0	8/09 07:35			
Метсшу		747IA Diy	ND	0.0080	0.025	mg/Kg dry	lĸ	50676	09/22/09 11:48	09/22/09 15:23	
SSI0049-15	(G-RS3SED-4-090809)		Soi	t		Samp	led: 09/0	8/09 11:15			
Метситу		7471A Dry	0.0099	0.0071	D,022	mg/Kg dry	ìκ	50676	09/22/09 11:48	09/22/09 15:27	
SSI0049-16	(G-RS3SED-0-090809)		Soi	i		Samp	led: 09/0	8/09 11:10			
Мегситу	<del></del>	7471 A Dry	0,0085	0.0079	0.025	mg/Kg dry	1×	50676	09/22/09 11:48	09/22/09 15:32	,
S\$10049-17	(G-RS4SED-0-090809)		Soi	1		Samp	led: 09/0	8/09 12:20			
Mercury		747IA Dry	ND	0.0071	0.022	mg/Kg dry	1 _X	50676	09/22/09 11:48	09/22/09 15:37	
SS10049-18	(G-RS4SED-4-090809)		Soi	ì		Samp	ied: 09/0	8/09 12:25			
Mercury	····	7471A Dry	0.020	0.0066	0,021	mg/Kg dry	1x	50676	09/22/09 11:48	09/22/09 15:41	·· ·· · · · · · · · · · · · · · · · ·

Project Manager:

TestAmerica Spokane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in the entirety.

Randee Decker, Project Manager



# **E Avery Landing Site ARARs**

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Appendix E: Potential Applicable or Relevant and Appropriate Requirements

Standard, Requirement, Criterion,		Appropriate Requirements	
or Limitation	Citation	Description	ARAR
Applicable			
Federal Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comments and Process Advantage Comme	40 CEP 2(1 -t	Consider the second determine whether a solid constant is social and	A1:1.1-
Resource Conservation and Recovery Act (RCRA), Identification and Management of Hazardous Wastes	40 CFR 261 et seq.	Specifies how to determine whether a solid waste is considered hazardous (whether listed or based on characteristic) and how to manage hazardous wastes.	Applicable
Clean Air Act (CAA), National Ambient Air Quality Standards	42 USC 7401 et seq. 40 CFR 50	Provides air quality standards for six criteria pollutants, including particulate matter, to protect public health and welfare.	Applicable
Toxic Substances Control Act	15 U.S.C § 2601 et seq.	Provides requirements for reporting, record-keeping, testing, and disposal of certain chemical substances and/or mixtures, including polychlorinated biphenyls [PCB]s.	Applicable if PCB concentrations exceed specific thresholds
Hazardous Materials Transportation Act	49 USC 1801-1813 49 CFR 107, 171-177	Regulates the transportation of hazardous waste.	Applicable (if off-site disposal of hazardous materials is included in cleanup action)
Clean Water ActNational Pollution Discharge Elimination System	33 USC § 1342	Establishes requirements for point source discharges and storm water runoff.	Applicable for any point source discharge of pollutants to surface water, including storm water runoff at the site. If response activities at the site involve clearing, grading, excavating, or other response activities that will disturb more than one acre of land resulting in storm water discharges, such activities must also comply with the substantive requirements for a Construction Stormwater General Permit to prevent or minimize the discharge of pollutants in storm water runoff from the disturbed areas to waters of the United States.
Endangered Species Act (ESA)	16 U.S.C. §§ 1531 – 1544 50 CFR Parts 17, 402	Provides for the protection of species of fish, wildlife, and plants that are listed as threatened or endangered with extinction. It also protects designated critical habitat for listed species. The Act outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species, including consultation with resource agencies.	Applicable to the site for listed and proposed to be listed threatened or endangered species and their habitat areas which will, or could, be impacted by removal action. Consistent with ESA Section 7, if any federally designated threatened or endangered species, listed or proposed to be listed, are identified in the vicinity of removal work, and the action may affect such species and/or their habitat, EPA is to consult with the Department of the Interior to ensure such actions are conducted in a manner to avoid adverse habitat modification and jeopardy to the continued existence of such species.
Fish and Wildlife Coordination Act	16 U.S.C. § 661 et seq	Requires that adequate provision must be made for the conservation, maintenance, and management of wildlife resources and habitat and requires consultation with the U.S. Fish and Wildlife service and appropriate state agencies.	Applicable to the site since listed threatened or endangered species habitat areas will, or could, be impacted by response action.
Migratory Bird Treaty Act (MBTA)	16 USC § 703 et seq	Makes it unlawful to "hunt, take, capture, kill" or take various other actions adversely affecting a broad range of migratory birds, including tundra swans, hawks, falcons, songbirds, without prior approval by the U.S. Fish and Wildlife Service. (See 50 CFR 10.13 for the list of birds protected under the MBTA.) Under the MBTA, permits may be issued for take (e.g., for research) or killing of migratory birds (e.g., hunting licenses). The mortality of migratory birds due to ingestion of contaminated sediment is not	Applicable for protecting migratory bird species identified. The selected removal action to be carried out in a manner that avoids the taking or killing of protected migratory bird species, including individual birds or their nests or eggs.

Appendix E: Potential Applicable or Relevant and Appropriate Requirements

Standard, Requirement, Criterion, or Limitation	Citation	Description	ARAR
-		a permitted take under the MBTA.	
National Historic Preservation Act	16 USC § 470f; 36 CFR Parts 60, 63, 800	Requires federal agencies to consider the possible effects on historic sites or structures of any actions proposed for federal funding or approval. Historic sites or structures are those included on or eligible for the National Register of Historic Places, generally older than 50 years. If an agency finds a potential adverse effect on historic sites or structures, such agency must evaluate alternatives to "avoid, minimize, or mitigate" the impact, in consultation with the State Historic Preservation Office (SHPO).	Potentially applicable to removal actions if there is to be demolition of old mine, mill, or structures on the Site. In consultation with the SHPO, unavoidable impacts on historic sites or structures may be mitigated through such means as taking photographs and collecting historic records.
Archaeological Resources Protection Act	16 USC § 470aa et seq.; 43 CFR Part 7	Prohibits the unauthorized disturbance of archaeological resources on public or Indian lands. Archaeological resources are "any material remains of past human life and activities which are of archaeological interest," including pottery, baskets, tools, and human skeletal remains. The unauthorized removal of archaeological resources from public or Indian lands is prohibited without a permit, and any archaeological investigations at a site must be conducted by a professional archeologist.	Applicable for the conduct of any selected response actions that may result in ground disturbance.
American Indian Religious Freedom Act	42 USC § 1996 et seq	The American Indian Religious Freedom Act and implementing regulations are intended to protect Native American religious, ceremonial, and burial sites, and the free practice of religions by Native American groups. The requirements of this Act must be followed if sacred sites graves are discovered in the course of ground-disturbing activities.	Potentially applicable to a site where response actions involve disturbance/alteration of the ground and/or site terrain.
Native American Graves Protection and Repatriation Act	25 USC § 3001 et seq 43 CFR Part 10 25 USC 3001 et seq. 43 CFR 10	Intended to protect Native American graves from desecration through the removal and trafficking of human remains and "cultural items" including funerary and sacred objects. The requirements of this Act must be followed when graves are discovered or ground-disturbing activities encounter Native American burial sites.	Potentially applicable to a site where response actions involve disturbance/alteration of the ground and/or site terrain.
Protection of Wetlands	Executive Order 11,990	Requires that potential impacts to wetlands be considered, and as practicable, destruction, loss, or degradation of wetlands be avoided. EPA promulgated regulations to implement this Executive Order under 40 CFR Part 6.	Applicable to a removal action that take place in wetlands at a site
State of Idaho			
Idaho Ground Water Quality Rule	IDAPA 58.01.11	Provides standards for the protection of groundwater in the State of Idaho. Establishes Primary Constituent Standards for the protection of human health.	Applicable for the protection of human health related to ground water uses; site located in the State of Idaho.
Idaho Water Quality Standards	IDAPA 58.01.02	Provides standards for the protection of surface water in the State of Idaho.	Applicable for the protection of surface water, including any discharges to the St. Joe River during a removal action; site is located in the State of Idaho.
Rules for the Control of Air Pollution in Idaho	IDAPA 58.01.01	Provides for the control of air pollution in Idaho	Applicable for any air discharges during a removal action; site is located in the State of Idaho.
Idaho Land Remediation Rules	IDAPA 58.01.18	Provides regulations for the cleanup of sites based on risk to human health and the environment where releases or threatened release of hazardous substances or petroleum exists.	Applicable for the cleanup of site based on risk to human health and the environment; site is in the State of Idaho.
Rules and Standards for Hazardous Waste	IDAPA 58.01.05	Regulates the handling and disposal of hazardous wastes.	Applicable for the handling and disposal of hazardous waste in the State of Idaho.
Solid Waste Management	IDAPA 58.01.06	Regulates the handling and disposal of solid waste.	Applicable for the handling and disposal of solid waste in the State of Idaho.

Relevant and Appropriate			
Federal			
National Primary Drinking Water Standards	40 CFR 141	Establishes drinking water regulations (Maximum Contaminant Levels [MCLs] and Maximum Contaminant Level Goals [MCLGs]) for primary water systems.	Relevant and appropriate (state has Ground Water Quality Rule for protection of human health)
Oil Pollution Prevention, Spill Prevention, Control, and Countermeasure (SPCC)	40 CFR Part 112	Requires facilities that could reasonably be expected to discharge oil in quantities that may be harmful into navigable waters of the United States and adjoining shorelines to development and implement SPCC Plans.	Potentially relevant and appropriate because of ongoing discharges of oil to navigable waters of the United States
State of Idaho	l		l
None			
Under To Be Considered (TBC) Mat	erials		
EPA Regional Screening Levels (RSLs)	EPA RSL Table http://www.epa.gov/reg3hwmd/risk/hu man/rb-concentration_table/index.htm	Provides risk-based screening levels for chemical contaminants at Superfund sites.	May be TBC material
Idaho Risk Evaluation Manual	IDEQ 2004, Idaho Risk Evaluation Manual.	Presents Initial Default Target Levels (IDTLs), which are risk- based concentrations derived from standardized equations that combine default exposure assumptions with EPA toxicity data. The IDTLs are considered to be protective for humans over a lifetime and meeting these levels allows unrestricted (residential) use of the property.	May be TBC material
Regional Sediment Evaluation Team, Freshwater Sediment Screening Levels for the Pacific Northwest	Regional Sediment Evaluation Team (RSET), 2006, Interim Final Sediment Evaluation Framework for the Pacific Northwest.	Presents sediment screening levels for the Pacific Northwest, including the State of Idaho.	May be TBC material
Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems	MacDonald, D.D., T. Berger, K. Wood, J. Brown, T. Johnsen, M.L. Haines, K. Brydges, M.J. MacDonald, S.L. Smith, and D.D. Shaw, 1999, A Compendium of Environmental Quality Benchmarks.	Provides consensus-based sediment quality guidelines; used for compounds for which RSET standards were not available.	May be TBC material
Surface water benchmarks	Suter, G.W. and C.L. Tsao, 1996, Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision Oak Ridge National Laboratory, Oak Ridge, TN, ES/ER/TM.	Provides alternate surface water benchmarks for compounds that do not have State of Idaho standards.	May be TBC material

#### Key:

ARAR = Applicable or Relevant and Appropriate Requirement

CFR = Code of Federal Regulations

CAA = Clean Air Act

CWA = Clean Water Act

EPA = United States Environmental Protection Agency

ESA = Endangered Species Act

IDAPA = Idaho Administrative Procedures Act

IDEQ = Idaho Department of Environmental Quality

IDTL = Initial Default Target Levels

MBTA = Migratory Bird Treaty Act MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

NPDES = National Pollution Discharge Elimination System

RCRA = Resource Conservation and Recovery Act

RSET = Regional Sediment Evaluation Team

RSL = Regional Screening Level

SHPO = State Historic Preservation Office

SPCC = Spill Prevention, Control, and Countermeasure

TBC = to be considered USC = United States Code

### F

## **Soil Washing Treatability Study, ART Engineering 2009**

(not including Attachment C, Analytical Data Reports)

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## SOIL WASHING TREATABILITY STUDY REPORT

AVERY LANDING SITE, AVERY, ID

December 14, 2009

### **ART Engineering, LLC**

12526 Leatherleaf Drive Tampa, FL 33626 USA Phone: 813-855-9852 Fax: 813-929-8717

Web: www.art-engineering.com

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### **FIGURES**

Figure 1: Site Location Map

Figure 2: Treatability Study Sampling Plan

Figure 3: Soil Washing Treatability Study Flow Diagram

Figure 4: Schematic Process Flow Diagram for Full Scale Soil Washing Treatment

### **APPENDICES**

Appendix A: Treatability Study Photos

Appendix B: Treatability Study Raw Data Collection Sheets

Appendix C: Analytical Data Reports

Appendix D: Analytical Results for Field Composite Soil Samples prepared by Golder

### **EXECUTIVE SUMMARY**

This report presents and summarizes the results of soil washing treatability study performed by ART Engineering, LLC (ART) for soil samples collected from the Avery Landing Site, Avery, Idaho (Site). Samples were collected by Golder Associates, Inc. (Golder) on behalf of Potlatch Land and Lumber, LLC (Potlatch). Chemical analysis was performed by TestAmerica, Spokane, Washington.

A total of four (4) samples were evaluated in this study. Three (3) composite samples were collected from the saturated zone and one (1) sample (Sample TS2U) was collected from surface soils in the unsaturated zone. The samples evaluated in this study contain an average of 70.2% by weight gravel (>2.0 mm), 25.3% sand (0.038 – 2.0 mm), and 4.5% fines (<0.038 mm) as measured on dry weight basis. This particle size distribution is favorable for a soil washing process. The results of this study indicate that hydrocarbon removal efficiencies for TPH-Diesel and Heavy Oil Range Hydrocarbons in the range of 96% to 97% can be achieved. For the three composite samples, the average hydrocarbon concentration in the washed sand product was 115 mg/kg for TPH-Diesel, and 91 mg/kg for Heavy Oil Range Hydrocarbon. The use of a surfactant improved contaminant removal efficiency for Composite #1, but did not have a beneficial effect for other samples evaluated in this study. The use of elevated temperature did not provide any significant beneficial effect and is not recommended.

For sample TS2U, the hydrocarbon concentration in the washed sand product, without flotation, was 3,280 mg/kg for TPH-Diesel and 4,000 mg/kg for Heavy Oil Range Hydrocarbon. After flotation, hydrocarbon levels were 2,470 mg/kg for TPH-Diesel and 3,040 mg/kg for Heavy Oil Range Hydrocarbon. The use of flotation increased the contaminant removal efficiency for Sample TS2U from 69% to 77% by removal of asphaltic particles in the flotation concentrate. The lower contaminant removal efficiency achieved for Sample TS2U, may be the result of presence of asphaltic particles which were not observed in the composite samples collected from the saturated zone.

The results of this study show that significant hydrocarbon removal can be achieved for washed gravel and sand fractions (totaling 95% of the soil mass on a dry weight basis) at the Site through the use of soil washing. The hydrocarbons removed in the soil washing process will be concentrated and pressed into a fines filter cake for further treatment or disposal. In this study, the wash water was successfully treated to remove soil fines and dispersed hydrocarbon. This allows for the full-scale plant to be designed as a closed-loop system in which the water is continuously treated and reused. No normal water discharge would be required.

#### 1.0 Introduction

This report presents and summarizes the soil washing treatability study results for the Avery Landing Site in Avery, Idaho (Site). The Site is located along State Highway 50, about 0.75 mile west of the town of Avery, Idaho (Figures 1 and 2).

Potlatch entered into Administrative Order on Consent (AOC) No 10-2008-0135 with the U.S. Environmental Protection Agency (EPA) to complete an Engineering Evaluation/Cost Analysis (EE/CA) for the Site. In support of the EE/CA, this soil washing treatability study was performed to provide data on soil washing treatment.

The following contaminants of concern have been identified for the Site soils:

- TPH-Diesel and Heavy Oil Range Hydrocarbons;
- Naphthalenes;
- PAHs (including carcinogenic PAHs).

Soil samples were collected by Golder Associates, Inc. (Golder) in the week of August 24 through 28, 2009. The samples were shipped to soil washing vendor ART Engineering, LLC (ART), in Tampa, Florida, for performance of a laboratory soil washing treatability study. Chemical analysis was performed by TestAmerica in Spokane, Washington, under contract to Golder.

### 2.0 Purpose and Scope

The scope of this treatability study was to evaluate the use of size separation and soil washing to clean soil samples collected from the Site. Soil washing is believed to have the highest potential for practical application for the Site. Petroleum compounds typically concentrate in the finer soil fractions (smaller particle sizes). In addition, larger size particles (e.g., gravel and coarse sand) are typically easier to clean by soil washing than smaller-size particles because the larger-size particles have less sorption capacity and are usually simply coated on the surface. However, the extent to which these factors apply can vary considerably in different soils.

By separating clean and contaminated size fractions, size separation reduces the quantity of material requiring disposal or further treatment. Soil washing removes contaminants from soil, thereby reducing the quantity of material requiring disposal or further treatment. Even when soil washing does not achieve cleanup levels, the contaminant reduction can reduce the difficulty and cost of further treatment. Thus, soil washing can function as stand-alone treatment, or as pre-treatment in conjunction with another technology (e.g., land treatment or thermal desorption).

The objective of the soil washing treatability study was to determine the residual TPH concentrations in various size fractions after size separation and soil washing. Based on the results of this study, a projected mass balance for application of full scale soil washing at the Site has been prepared.

The analytical results from the various soil fractions and residuals resulting from soil washing will be compared to the applicable site cleanup criteria by Golder as part of the EE/CA.

### 3.0 Sample Collection and Initial Soil Analysis

### 3.1 Sample Collection

Bulk samples of the soils in the "smear zone" impacted by LNAPL (from approximately 12 to 14 feet below ground surface) were obtained from six (6) locations at the Site, as shown on Figure 2. The test pits were located in areas where LNAPL has been found in wells during previous investigations. The test pits are spread throughout the eastern half of the Site in order to obtain aerial coverage across the portion of the Site where known LNAPL is present. The samples were obtained from test pits using an excavator. The bulk soil samples only contained soil from the LNAPL smear zone (i.e. "clean" soil was not collected for the bulk soil samples).

The soil from each test pit was placed on plastic sheets and mixed using the excavator bucket and/or shovels. Photographic documentation of field conditions and the test pits was performed by Golder.

During sampling, it was also found that unsaturated soils in several test pits were impacted with hydrocarbons. In order to evaluate if this soil would also be amenable to soil washing, an additional sample of surface soil was collected at Test Pit 2 (Sample TS2U) for evaluation in this study.

Two (2) 5-gallon buckets of soil from each test pit were shipped to ART in Tampa, Florida, for performance of the study. One (1) additional 5-gallon bucket of soil collected from the unsaturated surface soils at Test Pit 2 was also shipped to ART for evaluation. All samples were received in good condition by ART on September 17, 2009.

### 3.2 Sample Compositing

Prior to sample compositing, free standing water was decanted and soil homogenized and photographed (Photos 1 through 18). In accordance with the approved Treatability Study Workplan for the Avery Landing Site, Avery, Idaho by Golder dated June 23, 2009, three (3) composite samples were prepared as follows:

Composite #1 from TS-1 and TS-2; Composite #2 from TS-3 and TS-5; Composite #3 from TS-4 and TS-6.

Sample TS2U was evaluated as a separate sample.

Each composite sample was prepared by combining equal weights of the individual samples. The three (3) composite samples and Sample TS2U are indicative of the variability in the soil that might be treated.

Figure 3 shows a flow diagram of the soil washing treatability study. This approach is designed to simulate all of the steps in the soil washing process. Each of the composite samples and Sample TS2U were processed separately according to the flow diagram in Figure 3.

### 3.3 Soil Homogenization, Screening at 12.5 mm (1/2") and Gravel Washing

Each of the composite samples and Sample TS2U were homogenized and dry-screened at 12.5 mm ( $\frac{1}{2}$ "). Each of the soil fractions >12.5 mm and <12.5 mm were weighed. The coarse gravel fraction was washed using water at room temperature. The washed-off fines material were collected, dried and weighed. Photos of the soil fraction after dry screening and after washing are provided in Photos 19 through 32.

Results are presented in Table 1. The results indicate that the soil contains 47.2% coarse gravel (>12.5 mm) and 52.8% soil and fine gravel (<12.5 mm) on average as measured on a dry weight basis. This soil distribution is not corrected for adhering soil present in the coarse gravel fraction greater than 12.5 mm. A correction for adhering soil is provided in Section 3.4 (Table 3).

### 3.4 Determination of Soil Particle Size Distribution

The particle size distribution on the soil fraction less than 12.5 mm ( $\frac{1}{2}$ ") was determined through wet screening. Results are provided in Table 2. Using this data, the particle size distribution for the whole soil, including soil fraction >12.5 mm, was recalculated. Results are presented in Table 3.

The soil particle size distributions for each of the samples are very similar containing approximately 70.2% gravel (>2.0 mm), 25.3% sand (0.038 – 2.0 mm) and 4.5% fines (less than 38 micron) by weight on average as measured on dry weight basis.

### 3.5 Untreated Soil Analysis

The untreated soil fraction <12.5 mm (Sample "B") and soil fraction <2.0 mm (Sample "C") were analyzed for contaminants of concern. The results are presented in Table 4. From the samples collected from the smear zone, Composite #1 was found to contain the highest concentration of hydrocarbon of 7,440 mg/kg TPH-Diesel and 4,530 mg/kg Heavy Oil Range Hydrocarbon.

The sample of surface soil, Sample TS2U, collected from the unsaturated zone, was found to contain the highest concentration of hydrocarbon of 10,700 mg/kg TPH-Diesel and 13,000 mg/kg Heavy Oil Range Hydrocarbon. It was also noticed that this sample contained asphaltic tar particles which were not observed in the samples collected from the smear zone.

Guided by the results of prior analysis of samples collected by Golder during the Site sampling efforts, only Composite #3 and Sample TS2U were selected to be analyzed for PCB. Levels of PCB detected were low, respectively 0.107 mg/kg and 0.313 mg/kg.

### 3.6 Washed Coarse Gravel (+12.5 mm) Chemical Analysis

The washed coarse gravel fraction greater than 12.5 mm was analyzed for SPLP leachable hydrocarbon and PAH. Composite #3 was also analyzed for PCB. Results are presented in Table 5.

The results indicate that the washed coarse gravel contains low levels of leachable hydrocarbon measured by SPLP and low levels of total PAH and PCB.

### 4.0 Soil Washing Process Testing

The soil fraction <12.5 mm (Sample "B") was processed through wet screening at 2 mm and hydraulic separation at approximately 0.038 micron to simulate the full scale soil washing process. The fines fraction and wash water were flocculated and dewatered into the simulated filter cake.

### 4.1 Wet Screening

For each composite sample and Sample TS2U, approximately 5.0 kg of soil fraction less than 12.5 mm was processed through wet screening at 2.0 mm. The washed fine gravel (fraction 2.0-12.5 mm) was crushed and submitted for chemical analysis. It was noted that for Sample TS2U, the fine washed gravel (2.0 mm - 12.5 mm) contained asphaltic tar particles that were not observed in

the other composite samples (Photos 33 and 34). Analytical results are shown in Table 6.

The results indicate that the average hydrocarbon concentration in the washed fine gravel (2.0-12.5 mm) for Composites #1, #2 and #3 was 212 mg/kg TPH-Diesel and 237 mg/kg for Heavy Oil Range Hydrocarbon. For Sample TS2U, the fine gravel fraction (2.0-12.5 mm) showed elevated levels of hydrocarbon. It is believed that the elevated hydrocarbon concentrations are related to the presence of the asphaltic material (Photos 33 and 34).

### 4.2 Sand Separation

For each of the composite samples, the sand fraction, and fines fraction were separated in the laboratory using a simulated hydrocyclone separation technique. The sand after separation was analyzed (Sample "F") and used for subsequent washing tests. The fines and wash water were separated and used for clarification tests.

### 4.3 Sand Washing Tests

The objective of the washing tests was to determine the lowest possible hydrocarbon level in the sand fraction through use of water only washing, water and surfactant washing at ambient and elevated temperature. To evaluate if there would be an additional cleanup benefit of using flotation, additional flotation tests were performed using a Denver D12 flotation machine (Photos 35 through 40). All washing tests were performed on the sand fraction after hydraulic separation as indicated in the treatability study flow diagram (Figure 3).

The following washing tests were performed:

- Test 1) Water only Washing at ambient temperature (Sample "WS-1");
- Test 2) Surfactant Washing at ambient temperature (Sample "WS-2");
- Test 3) Surfactant Washing at 130° F (Sample "WS-3);
- Test 4) Surfactant Washing with Flotation at ambient temperature (Sample "WS-4"):
- Test 5) Surfactant Washing with Flotation at 130° F on Composite 2 and Sample TS2U only (Sample "WS-5").

Results of the washing tests are provided in Tables 7, 8, 9 and 10. A comparison of the results for each of the composite samples and Sample TS2U is provided in Table 11.

For Composites #1, #2 and #3, the average hydrocarbon concentration in the washed sand product after surfactant washing was 115 mg/kg for TPH-Diesel and 91 mg/kg for Heavy Oil Range Hydrocarbon. Typical hydrocarbon removal efficiencies were achieved in the range of 96% to 99%. The removal efficiencies for PAH were in similar range indicating that the PAH are present within the oil phase. For each of the composite samples, the use of a surfactant improved contaminant removal efficiency for Composite #1, but did not have a beneficial effect for other samples evaluated in this study. The use of flotation did not improve contaminant removal efficiency for Composites #1, #2 and #3. Also, the use of elevated temperature did not provide any significant contaminant removal benefits.

For sample TS2U, the hydrocarbon concentration in the washed sand product (without flotation) was 3,280 mg/kg for TPH-Diesel and 4,000 mg/kg for Heavy Oil Range Hydrocarbon. After flotation, hydrocarbon levels were 2,470 mg/kg for TPH-Diesel and 3,040 mg/kg for Heavy Oil Range Hydrocarbon. The use of flotation did increase contaminant removal efficiency for Sample TS2U from 69% to 77% by removal of tar particles in the flotation concentrate (Photos 39 and 40). For Sample TS2U, the use of elevated temperature did not provide any significant contaminant removal benefits. For Sample TS2U, the removal efficiency after surfactant washing, and without flotation, was significantly lower at 69% as compared to removal efficiency of 96% to 99% achieved for Composites #1, #2 and #3. The likely explanation of this difference is that Sample TS2U contained asphaltic particles (Photos 33 and 34) in all size fractions. The asphaltic particles were not observed in the composite samples collected from the saturated zone.

### 4.4 Simulated Fines Filter Cake Analysis

The wash water containing fines and dispersed hydrocarbon was successfully flocculated and clarified (Photos 41 through 44). The settled fines were dewatered into a simulated filter cake by squeezing the fines material against a fine metal wire mesh. The simulated filter cake was submitted for chemical analysis. Results are presented in Table 12.

The results indicate that the filter cake contains elevated concentration of hydrocarbons. The filter cake maybe treated further by thermal methods or disposed at an off-site landfill.

### 4.5 Wash Water Clarification and Analysis

The clarified wash water after flocculation was decanted and analyzed for hydrocarbon and a wide range of analytical compounds (Photos 41 through 44). The analytical results for detected analytes are provided in Table 13. The results of the full list of analytical parameters are provided in Appendix C.

The clarified water is of sufficient quality to allow for normal reuse as wash water in a full-scale soil washing system.

### 5.0 Full Scale Soil Washing

### 5.1 Process Description

A generic process flow diagram (PFD) for soil washing as it could be performed for the Site is shown in Figure 4.

This process would involve the following main processing steps:

- Pre-screening to 75 mm;
- Plant feeding;
- Wet screening and gravel washing;
- Separation of sand from fines and hydrocarbon;
- Sand rinsing and dewatering;
- Water clarification and fines dewatering;
- Process water reuse.



Mobile Soil Washing Plant

The main treatment steps are described in the following paragraphs.

### Soil Excavation and Plant Feed Management

The two key plant design parameters for plant feed for this project are: 1) Soil particle size distribution; and 2) Level of contamination. To obtain the optimum plant efficiency in terms of plant production rate and achieving the desired cleanup standard, it is required that the plant feed stay within the design parameters. Therefore, it is essential that a comprehensive site excavation, blending and staging plan be developed and followed to prepare the soil for soil washing. If the soil washing is

performed concurrent with excavation, than adjustments to field excavation can be made easily to optimize performance of the soil washing system.

### **Pre-Screening**

This unit consists of a 75 mm dry vibratory screen. The purpose of this equipment is to remove coarse material larger than 75 mm as preparation for introduction of the soil into the soil washing plant.

### **Plant Feeding**

The plant is fed using a feed hopper with "walking floor." The feed hopper floor is equipped with a variable speed drive, which is used to adjust the feed rate to the system. The plant feed conveyor than delivers the feed to the wet screening unit. A belt scale on the plant feed conveyor measures the tons per hour being fed to the wet screen. The feed rate into the plant can be adjusted by adjusting the feed hopper floor speed to match the desired feed into the plant.

### Wet Screening & Gravel Washing

This unit consists of a wet vibrating screen, a collection sump and an oversize conveyor. The vibrating screen will separate the gravel material. Spray nozzles installed above the screen deck break down the soil and wash the gravel particles. The gravel material is stockpiled by oversize conveyor. Pressurized wash water is obtained from the process recycle water tank. The sand and fines slurry passing through the screen is forwarded for sand/fines hydraulic separation.

### Separation of Sand, Fines and Hydrocarbon

This unit separates the sand and fines at the selected separation diameter (cut-point). This unit includes one or multiple hydrocyclones and/or sand screw combination (processing details to be determined). The fines and emulsified hydrocarbon are separated from the sand. The sand is directed to sand rinsing and dewatering unit. The fines fraction containing adsorbed and emulsified hydrocarbon is directed to the water clarification and fines dewatering unit.

### **Sand Rinsing and Dewatering**

The sand fraction after separation of hydrocarbon and fines will be rinsed with clean process water and dewatered. The dewatered clean sand will be stockpiled by means of a radial stacker.

### Water Clarification and Fines Dewatering

This unit contains water treatment systems to separate fines and dispersed oils from the wash water. Water treatment chemicals are used to break the emulsion and separate the fines from the wash water. The clarified wash water is then fed to a process water tank for reuse in the washing process. The fines and hydrocarbon are dewatered into a solid filter cake residue containing approximately 50% dry solids by weight. The hydrocarbons are bound within the filter cake matrix. The filter cake residue is a dry stackable product, which only contains bound moisture, but no free water. If filter cake is spread out and allowed to dry on open air before shipment to an off-site landfill, additional drying of filter cake can be achieved. Effectiveness of drying will depend on local weather conditions and season. The filter cake can be treated further or disposed at an appropriate off-site landfill.

### **Process Water Reuse**

All water used in the soil washing process is recycled (system designed as closed loop system). Because of loss of bound water with the filter cake and evaporation losses, the soil washing process is a net consumer of water. Typical make-up water requirement for the soil washing process is in the range of 20 to 30 gpm. No normal discharge of water is required.

A design provision is normally made to allow for occasional discharge of excess process water from rain events resulting in excess water in the system. Rain water or overflow water collected from the plant pad, is normally collected in an in-ground sump and pumped back into the soil washing process or into a holding tank.

### **Fugitive Dust**

As the soil washing process is a wet process, the washing process does not generate fugitive dust. Any fugitive dust from excavated soil or staged soils is mitigated by keeping the soil moist.

### 5.2 Projected Plant Product "In-Out" Mass Balance for Full-Scale Soil Washing

A projected mass balance for soil washing operations based on 1,000 tons of plant feed has been calculated (Table 14). This projected mass balance is based on the calculated average particle size distribution on a dry weight basis as presented in Table 3. For purpose of the mass balance, typical moisture

content values have been assumed for the oversize, sand and fines products based on ART's general project experience. Based on the results of this study, 95% of the soil material can be reclaimed for clean backfill at the Site. For every 1,000 tons of soil treated, it is estimated that 83 tons of filter cake residue will be produced. The filter cake residue may be further reduced by air drying before final disposal.

### 5.3 Filter Cake Disposal

The filter cake residue that would be produced by soil washing may be treated further (e.g., thermal desorption) or disposed at an off-site landfill.

### 5.4 Soil Washing Plant Production Rate

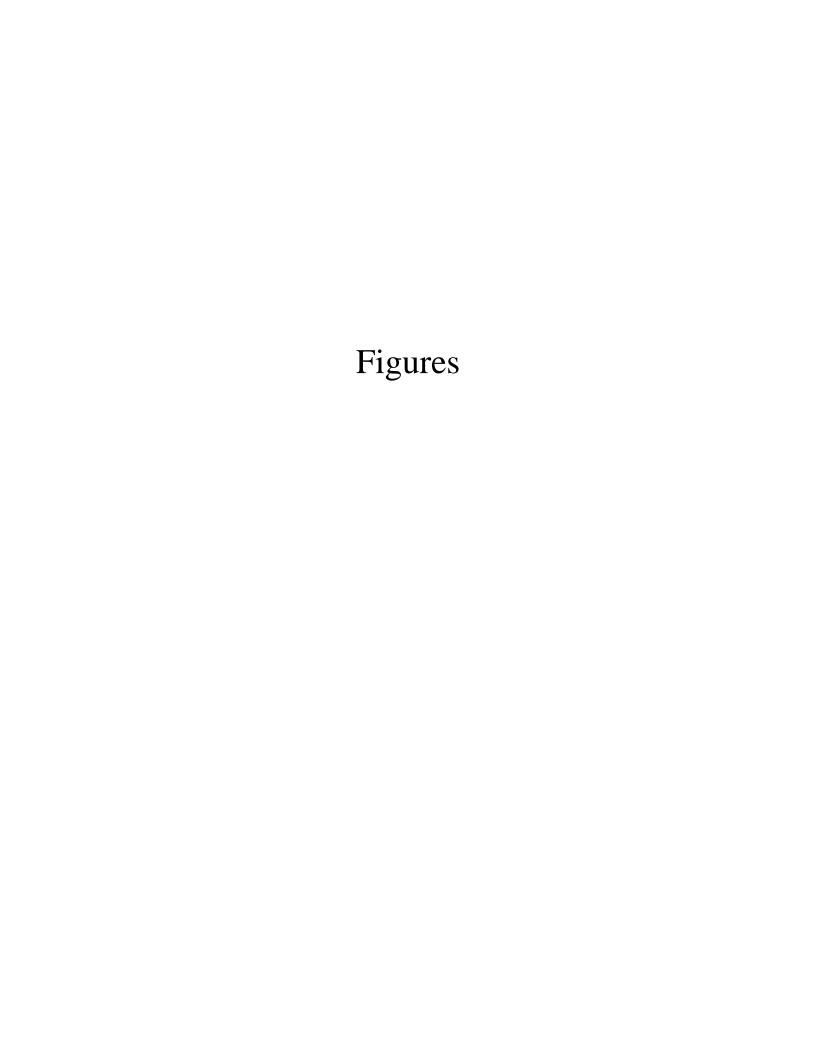
Based on the nature of the soil samples in this study, ART anticipates that a soil washing plant throughput rate in the range of 50 to 60 tph is reasonable.

### 6.0 Conclusions

The conclusions and recommendations based on the results of this study are as follows:

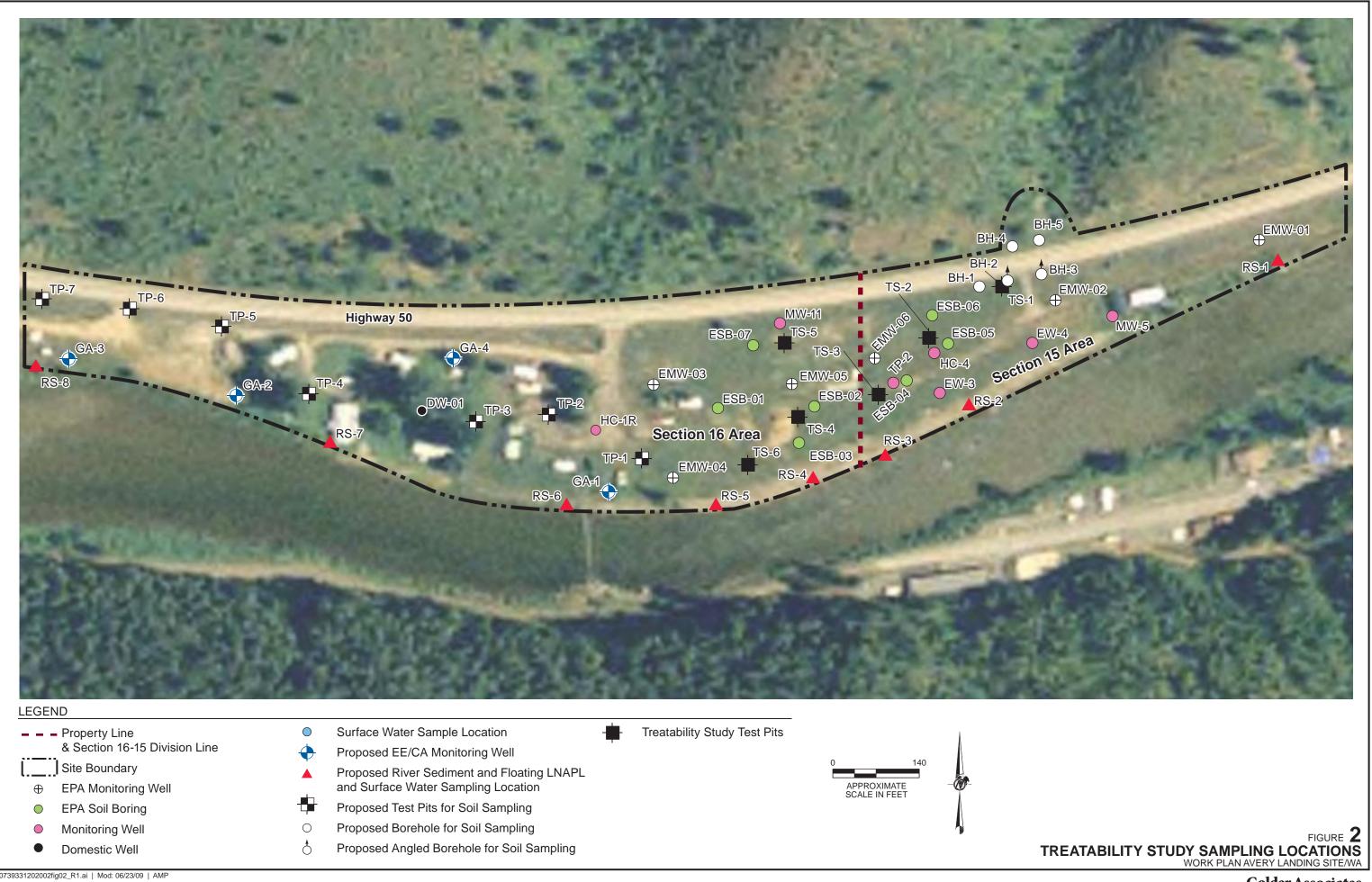
- 1. The results of the treatability study indicate that soil washing is an effective technology for cleaning of soils excavated from the smear zone at ground water level at the Site. The results of this study show that significant hydrocarbon removal can be achieved for washed gravel and sand fractions (totaling 95% of the soil mass on a dry weight basis) at the Site through the use of soil washing.
- 2. The use of a surfactant improved the contaminant removal efficiency for Composite #1, but did not have a beneficial effect for other samples evaluated in this study. The use of elevated temperature did not provide any significant contaminant removal benefits.
- 3. For Composites #1, #2 and #3 collected from the saturated zone, typical hydrocarbon and PAH removal efficiencies were achieved in the range of 96% to 99%. The average hydrocarbon concentration analyzed in the washed sand product after surfactant washing was 115 mg/kg for TPH-Diesel and 91 mg/kg for Heavy Oil Range Hydrocarbon. The average hydrocarbon concentration in the fine gravel fraction (2.0 12.5 mm) was 212 mg/kg TPH-Diesel and 237 mg/kg for Heavy Oil Range Hydrocarbon. The SPLP leachable hydrocarbon levels in the coarse gravel fraction > 12.5 mm were non-detectable for TPH-Diesel and very low for Heavy Oil Range Hydrocarbon.

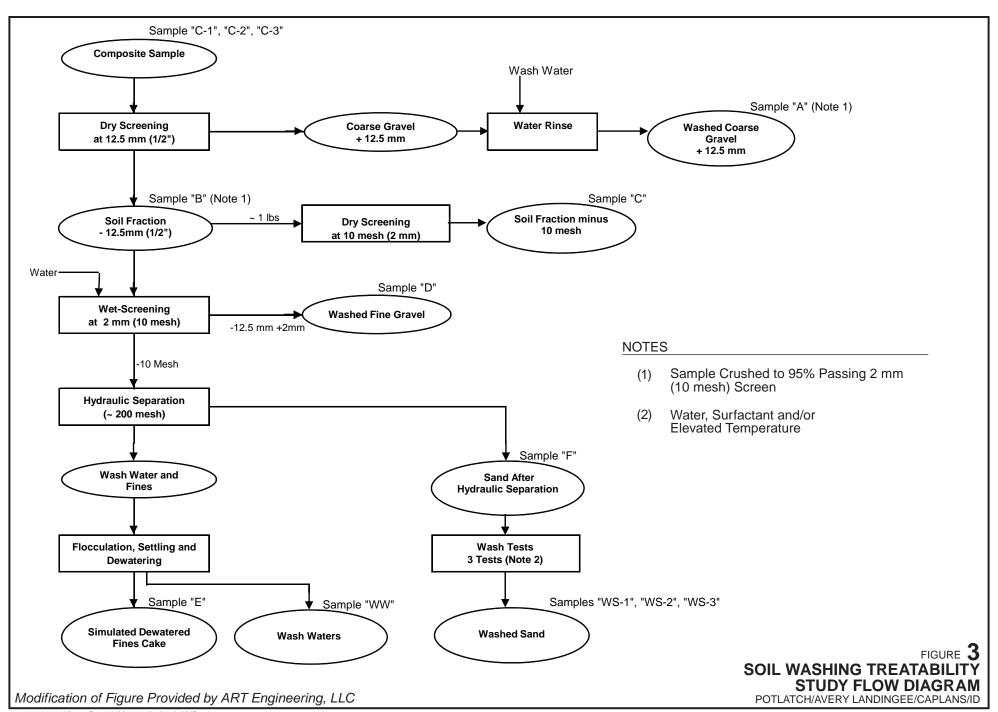
- 4. For Sample TS2U collected from the unsaturated zone, the hydrocarbon concentration was in the washed sand product, without flotation, was 3,280 mg/kg for TPH-Diesel and 4,000 mg/kg for Heavy Oil Range Hydrocarbon. The use of flotation did increase contaminant removal efficiency for Sample TS2U from 69% to 77% by removal of tar particles in the flotation concentrate. After flotation, hydrocarbon levels were 2,470 mg/kg for TPH-Diesel and 3,040 mg/kg for Heavy Oil Range Hydrocarbon. The lower contaminant removal efficiency achieved for Sample TS2U maybe the result of the presence of asphaltic particles which were not observed in soil samples from the saturated zone.
- 5. Wash water was treated to remove soil fines and dispersed hydrocarbon. This water would be acceptable for reuse in the plant.
- 6. The full-scale soil washing technology to achieve these results is well understood and can be implemented at this Site. A plant production rate in the range of 50 to 60 tph is achievable.





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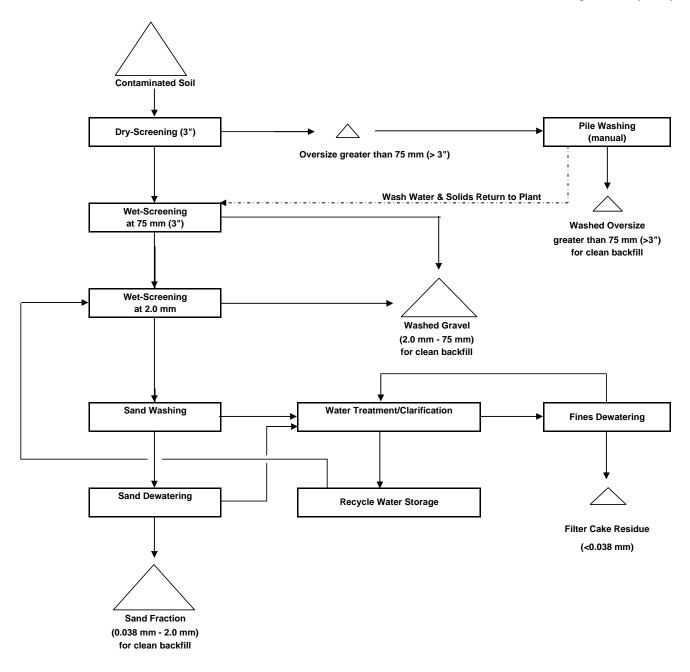


Figure 4: Schematic Process Flow Diagram for Full Scale Soil Washing Treatment

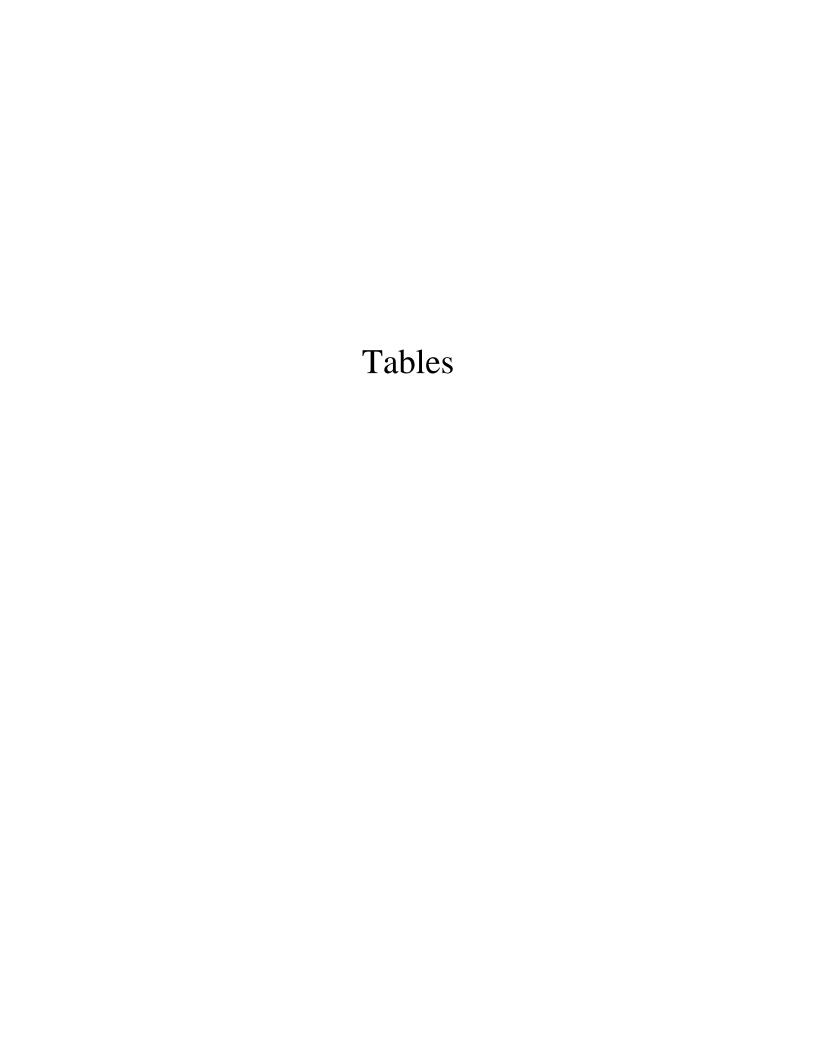


Table 1: Results Dry Screening at 12.5 mm (1/2")

		oil Fraction greater an 12.5 mm after D		Mass % by weight of adhering soil in soil fraction > 12.5 mm after dry screening	Corrected Mass Ratio on Dry Weight Basis - Soil Fract greater then 12.5 mm and less than 12.5 mm					
	Soil Fraction > 12.5 mm	Soil Fraction <12.5 mm	Total	(%)	Soil Fraction > 12.5 mm	Soil Fraction <12.5 mm	Total			
Composite 1	52.2%	47.8%	100.0%	5.8%	49.2%	50.8%	100.0%			
Composite 2	52.0%	48.0%	100.0%	5.7%	49.0%	51.0%	100.0%			
Composite 3	60.4%	39.6%	100.0%	7.6%	55.8%	44.2%	100.0%			
TS2U	37.0%	63.0%	100.0%	6.3%	34.7%	65.3%	100.0%			
Average				6.4%	47.2%	52.8%				

Table 2: Particle Size Distribution - Soil Fraction less than 12.5 mm

		Mass Distribution on	Dry Weight Basis (%) - So	oil Fraction < 12.5 mm	
Size Fraction	Composite#1	Composite#2	Composite#3	TS2U	Average
4.75-12.5 mm	18.4%	30.6%	30.7%	25.3%	26.3%
2.0-4.75 mm	15.4%	19.0%	21.8%	14.6%	17.7%
1.0-2.0 mm	11.6%	11.5%	12.3%	11.0%	11.6%
0.5-1.0 mm	10.4%	12.3%	11.7%	13.5%	12.0%
0.25-0.5 mm	7.3%	8.7%	5.1%	12.7%	8.4%
0.125-0.25 mm	8.4%	5.4%	5.1%	6.8%	6.4%
0.075-0.125mm	6.5%	2.6%	2.7%	4.2%	4.0%
0.038-0.063 mm	8.4%	3.6%	3.7%	4.5%	5.1%
<0.038 mm	13.6%	6.3%	6.7%	7.3%	8.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

 $[\]underline{\textit{Notes:}}^{1)}\!\!: \text{Mass Distribution calculated for whole soil including gravel fraction greater than 12.5 mm}$ 

Table 3: Particle Size Distribution recalculated for Whole Soil 1)

-		Mass Di	stribution on Dry Weight Bas	sis (%)	П
Size Fraction	Composite#1	Composite#2	Composite#3	TS2U	Average
>12.5 mm	49.2%	49.0%	55.8%	34.7%	47.2%
4.75-12.5 mm	9.4%	15.6%	13.6%	16.5%	13.8%
2.0-4.75 mm	7.8%	9.7%	9.6%	9.6%	9.2%
1.0-2.0 mm	5.9%	5.9%	5.4%	7.2%	6.1%
0.5-1.0 mm	5.3%	6.3%	5.2%	8.8%	6.4%
0.25-0.5 mm	3.7%	4.4%	2.3%	8.3%	4.7%
0.125-0.25 mm	4.3%	2.7%	2.3%	4.4%	3.4%
0.075-0.125mm	3.3%	1.3%	1.2%	2.7%	2.1%
0.038-0.063 mm	4.3%	1.8%	1.7%	3.0%	2.7%
<0.038 mm	6.9%	3.2%	3.0%	4.8%	4.5%
Total	100.0%	100.0%	100%	100%	100.0%

Notes:

1): Mass Distribution calculated for whole soil including gravel fraction greater than 12.5 mm

Table 4: Analytical Results - Untreated Soil

			Soil	Comp	osite 1	Comp	osite 2	Comp	osite 3	TS	2U
	Parameter	Units	Screening Level (mg/kg)	Soil Fraction < 12.5 mm Sample"B"	Soil Fraction < 2.0 mm Sample"C"	Soil Fraction < 12.5 mm Sample"B"	Soil Fraction < 2.0 mm Sample"C"	Soil Fraction < 12.5 mm Sample"B"	Soil Fraction < 2.0 mm Sample"C"	Soil Fraction < 12.5 mm Sample"B"	Soil Fraction < 2.0 mm Sample"C"
тот	AL SOLIDS	%		84.8	82.9	88.6	86.1	89.4	82.2	90.6	88.8
HYD	ROCARBON 1)										
	Diesel Range Hydrocarbons	mg/kg	NSA	7,440	5,480	1,440	1,500	2,400	3,280	10,700	33,400
	Heavy Oil Range Hydrocarbons	mg/kg	NSA	4,530	2,880	1,040	1,070	2,670	3,440	13,000	15,500
POL	YCYCLIC AROMATIC HYDROCA	ARBON (I	PAH) ²⁾								
	1-Methylnapthalene	mg/kg	22	ND	NA	ND	NA	2.14	NA	ND	NA
	2-Methylnaphthalene	mg/kg	310	0.121	NA	ND	NA	0.124	NA	1.20	NA
	Acenaphthene	mg/kg	52.3	1.49	NA	ND	NA	0.671	NA	0.711	NA
	Acenaphthylene	mg/kg	78	ND	NA	0.0803	NA	ND	NA	ND	NA
	Anthracene	mg/kg	1040	1.07	NA	0.522	NA	0.472	NA	1.47	NA
	Benzo (a) anthracene	mg/kg	0.15	0.220	NA	0.110	NA	ND	NA	0.442	NA
	Benzo (a) pyrene	mg/kg	0.02	0.147	NA	ND	NA	0.112	NA	0.245	NA
	Benzo (b) fluoranthene	mg/kg	0.15	0.142	NA	ND	NA	ND	NA	0.540	NA
	Benzo (ghi) perylene	mg/kg	1178	0.152	NA	ND	NA	0.124	NA	0.270	NA
	Benzo (k) fluoranthene	mg/kg	1.5	ND	NA	ND	NA	ND	NA	ND	NA
	Chrysene	mg/kg	15	0.325	NA	0.171	NA	0.224	NA	0.662	NA
	Dibenzo (a,h) anthracene	mg/kg	0.02	0.136	NA	ND	NA	ND	NA	ND	NA
	Fluoranthene	mg/kg	364	0.435	NA	0.156	NA	ND	NA	1.69	NA
	Fluorene	mg/kg	54.8	0.535	NA	0.346	NA	0.845	NA	ND	NA
	Indeno (1,2,3-cd) pyrene	mg/kg	0.15	0.142	NA	ND	NA	0.124	NA	ND	NA
	Naphthalene	mg/kg	0.078	0.278	NA	ND	NA	ND	NA	0.613	NA
	Phenanthrene	mg/kg	79	0.666	NA	0.361	NA	1.06	NA	1.05	NA
	Pyrene	mg/kg	359	0.985	NA	0.401	NA	0.348	NA	4.95	NA
POL	YCHLORINATED BI-PHENYLS (F	PCB) 3)									
	Aroclor-1016	mg/kg	3.9	NA	NA	NA	NA	ND	NA	ND	NA
	Aroclor-1221	mg/kg	0.17	NA	NA	NA	NA	ND	NA	ND	NA
	Aroclor-1232	mg/kg	0.17	NA	NA	NA	NA	ND	NA	ND	NA
	Aroclor-1242	mg/kg	0.22	NA	NA	NA	NA	ND	NA	ND	NA
	Aroclor-1248	mg/kg	0.22	NA	NA	NA	NA	ND	NA	ND	NA
	Aroclor-1254	mg/kg	0.22	NA	NA	NA	NA	ND	NA	ND	NA
	Aroclor-1260	mg/kg	0.22	NA	NA	NA	NA	0.107	NA	0.313	NA

Notes:

Shading indicates detection above lowest soil screening level.

NSA: No Screening Level Available

ND: not detected

NA: not analyzed

^{1):} Hydrocarbon by method NWTPH-Dx 2): PAH by method EPA 8270 mod.

³⁾: PCB by method EPA 8082

Table 5: Analytical Results - Washed Coarse Gravel (+12.5 mm)

Parameter	Units	Soil Screening Level	Wa	shed Coarse Gravel Frac	tion > 12.5 mm (Sample"/	<b>A</b> ")
Farameter	Onits	(mg/kg)	Composite 1	Composite 2	Composite 3	TS2U
DROCARBON 1)						
Diesel Range Hydrocarbons	mg/kg	NSA	NA	NA	NA	NA
Heavy Oil Range Hydrocarbons	mg/kg	NSA	NA	NA	NA	NA
DROCARBON - LEACHABLE BY S	PLP ²⁾					
Diesel (C10-C24)	mg/L	-	ND	ND	ND	ND
Motor Oil (C24-C36)	mg/L	-	0.093	0.006	0.065	0.068
LYCYCLIC AROMATIC HYDROCAF	RBON (PAH) ²⁾					
1-Methylnapthalene	mg/kg	22	0.101	ND	0.00729	0.0285
2-Methylnaphthalene	mg/kg	310	0.0982	ND	0.00546	0.0271
Acenaphthene	mg/kg	52.3	0.0473	ND	0.00546	0.0357
Acenaphthylene	mg/kg	78	ND	ND	ND	ND
Anthracene	mg/kg	1040	0.0630	ND	0.00501	0.0547
Benzo (a) anthracene	mg/kg	0.15	0.0108	ND	ND	0.0131
Benzo (a) pyrene	mg/kg	0.02	0.0054	ND	ND	0.00678
Benzo (b) fluoranthene	mg/kg	0.15	0.0122	ND	ND	0.0158
Benzo (ghi) perylene	mg/kg	1178	ND	ND	ND	0.00633
Benzo (k) fluoranthene	mg/kg	1.5	0.0126	ND	ND	ND
Chrysene	mg/kg	15	0.0185	ND	ND	0.0203
Dibenzo (a,h) anthracene	mg/kg	0.02	ND	ND	ND	ND
Fluoranthene	mg/kg	364	0.0455	ND	ND	0.0497
Fluorene	mg/kg	54.8	0.0644	ND	0.00592	0.0416
Indeno (1,2,3-cd) pyrene	mg/kg	0.15	ND	ND	ND	ND
Naphthalene	mg/kg	0.078	0.0104	ND	ND	ND
Phenanthrene	mg/kg	79	0.127	ND	0.00820	0.0845
Pyrene	mg/kg	359	0.0815	ND	0.00501	0.108
LYCHLORINATED BI-PHENYLS (PO	CB) 3)					
Aroclor-1016	mg/kg	3.9	NA	NA	0.0162	NA
Aroclor-1221	mg/kg	0.17	NA	NA	ND	NA
Aroclor-1232	mg/kg	0.17	NA	NA	ND	NA
Aroclor-1242	mg/kg	0.22	NA	NA	ND	NA
Aroclor-1248	mg/kg	0.22	NA	NA NA	ND ND	NA
Aroclor-1254	mg/kg	0.22	NA	NA	ND	NA
Aroclor-1260	mg/kg	0.22	NA	NA NA	ND	NA

# Notes:

Shading indicates detection above lowest soil screening level.

NSA: No Screening Level Available

ND: not detected NA: not analyzed

¹⁾: Hydrocarbon by method NWTPH-Dx ²⁾: PAH by method EPA 8270 mod.

^{3):} PCB by method EPA 8082

Table 6: Results Hydrocarbon Analysis - Washed Fine Gravel (2.0 - 12.5 mm)

			Washed Fine Gra	vel Fraction 2.0 - 12.5	5 mm (Sample"D")	
Parameter	Units	Composite 1	Composite 2	Composite 3	Average Composites #1, #2 and #3	TS2U
HYDROCARBON 1)						
Diesel Range Hydrocarbons	mg/kg	470	117	50	212	5,450
Heavy Oil Range Hydrocarbons	mg/kg	371	231	109	237	7,210

*Notes:* 1): Hydrocarbon by method NWTPH-Dx

Table 7: Analytical Results Soil Washing Tests - Composite 1

Table 1. Allalytical Results 3011 W		Untreated Soil	-			Sar	d After Separa	tion & Was	hing			
Parameter	Units	Soil Fraction < 12.5 mm Sample "C1-B"	Sand after I Separa Sample "	tion	Sand after W Wash Sample "C	ing	Sand after S Washi Sample "C	ing	Sand after S Washing at Temperatur Sample "C	Elevated e (130 F)	Sand after S Washing & Sample "C	Flotation
		Contaminant Concentration	Contaminant Concentration	Removal Efficiency (%)	Contaminant Concentration	Removal Efficiency (%)	Contaminant Concentration	Removal Efficiency (%)	Contaminant Concentration	Removal Efficiency (%)	Contaminant Concentration	Removal Efficiency (%)
HYDROCARBON 1)	ı			(**/	l	(**)	l	(1.1)		(**/		(**)
Diesel Range Hydrocarbons	mg/kg	7,440	1,290	83%	513	93%	274	96%	260	97%	339	95%
Heavy Oil Range Hydrocarbons	mg/kg	4,530	803	82%	359	92%	184	96%	175	96%	226	95%
OLYCYCLIC AROMATIC HYDRO	CARBO	N (PAH) ²⁾			•		•		•		•	
1-Methylnapthalene	mg/kg	ND	ND	-	NA	NA	NA	NA	NA	NA	ND	-
2-Methylnaphthalene	mg/kg	0.121	0.096	21%	NA	NA	NA	NA	NA	NA	0.006	95%
Acenaphthene	mg/kg	1.49	ND	-	NA	NA	NA	NA	NA	NA	ND	-
Acenaphthylene	mg/kg	ND	ND	-	NA	NA	NA	NA	NA	NA	ND	-
Anthracene	mg/kg	1.07	0.23	79%	NA	NA	NA	NA	NA	NA	0.04	96%
Benzo (a) anthracene	mg/kg	0.220	0.056	74%	NA	NA	NA	NA	NA	NA	0.007	97%
Benzo (a) pyrene	mg/kg	0.147	ND	-	NA	NA	NA	NA	NA	NA	ND	-
Benzo (b) fluoranthene	mg/kg	0.142	ND	-	NA	NA	NA	NA	NA	NA	0.004	97%
Benzo (ghi) perylene	mg/kg	0.152	0.045	70%	NA	NA	NA	NA	NA	NA	ND	-
Benzo (k) fluoranthene	mg/kg	ND	ND	-	NA	NA	NA	NA	NA	NA	ND	-
Chrysene	mg/kg	0.325	0.085	74%	NA	NA	NA	NA	NA	NA	0.012	96%
Dibenzo (a,h) anthracene	mg/kg	0.136	0.059	56%	NA	NA	NA	NA	NA	NA	ND	-
Fluoranthene	mg/kg	0.435	0.116	73%	NA	NA	NA	NA	NA	NA	0.016	96%
Fluorene	mg/kg	0.535	ND	-	NA	NA	NA	NA	NA	NA	0.010	98%
Indeno (1,2,3-cd) pyrene	mg/kg	0.142	0.056	60%	NA	NA	NA	NA	NA	NA	ND	-
Naphthalene	mg/kg	0.278	ND	-	NA	NA	NA	NA	NA	NA	ND	-
Phenanthrene	mg/kg	0.666	0.138	79%	NA	NA	NA	NA	NA	NA	0.022	97%
Pyrene	mg/kg	0.985	0.398	60%	NA	NA	NA	NA	NA	NA	0.055	94%

NA: not analyzed

Notes:

1): Hydrocarbon by method NWTPH-Dx
2): PAH by method EPA 8270 mod.
ND: not detected

Table 8: Analytical Results Soil Washing Tests - Composite 2

		Untreated Soil	<u> </u>				Sand	After Sepa	ration & Washi	ing				
Parameter	Units	Soil Fraction < 12.5 mm Sample "C2-B"	Sand after Hydraulic Separation Sample "C2-F"		Sand after Water Only Washing Sample "C2-WS1"		Sand after S Washi Sample "C	ing	Sand after Surfactant Washing at Elevated Temperature (130 F) Sample "C2-WS3"		Sand after Surfactant Washing & Flotation Sample "C2-WS4"		Sand after Surfacta Washing & Flotation Elevated Temperatu (130 F) Sample "C2-WS5"	
		Contaminant Concentration	Contaminant Concentration	Removal Efficiency	Contaminant Concentration	Removal Efficiency	Contaminant Concentration	Removal Efficiency	Contaminant Concentration	Removal Efficiency	Contaminant Concentration	,	Contaminant Concentration	Removal Efficiency
				(%)		(%)		(%)		(%)		(%)		(%)
IYDROCARBON 1)														
Diesel Range Hydrocarbons	mg/kg	1,440	116	92%	37	97%	43	97%	23	98%	34	98%	37	97%
Heavy Oil Range Hydrocarbons	mg/kg	1,040	105	90%	42	96%	43	96%	ND	-	31	97%	ND	-
OLYCYCLIC AROMATIC HYDRO	CARBO	N (PAH) 2)												
1-Methylnapthalene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
2-Methylnaphthalene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Acenaphthene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Acenaphthylene	mg/kg	0.0803	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Anthracene	mg/kg	0.522	0.0583	89%	NA	-	NA	-	NA	-	ND	-	ND	-
Benzo (a) anthracene	mg/kg	0.110	0.0181	84%	NA	-	NA	-	NA	-	ND	-	ND	-
Benzo (a) pyrene	mg/kg	ND	ND	•	NA	-	NA	-	NA	-	ND	-	ND	-
Benzo (b) fluoranthene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Benzo (ghi) perylene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Benzo (k) fluoranthene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Chrysene	mg/kg	0.171	0.0347	80%	NA	-	NA	-	NA	-	ND	-	ND	-
Dibenzo (a,h) anthracene	mg/kg	ND	ND	•	NA	-	NA	-	NA	-	ND	-	ND	-
Fluoranthene	mg/kg	0.156	0.0278	82%	NA	-	NA	-	NA	-	ND	-	ND	-
Fluorene	mg/kg	0.346	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Indeno (1,2,3-cd) pyrene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Naphthalene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Phenanthrene	mg/kg	0.361	0.0472	87%	NA	-	NA	-	NA	-	ND	-	ND	-
Pyrene	mg/kg	0.401	0.131	67%	NA	-	NA	-	NA	-	0.00445	99%	ND	-

Notes:

1): Hydrocarbon by method NWTPH-Dx

2): PAH by method EPA 8270 mod.

ND: not detected

NA: not analyzed

Table 9: Analytical Results Soil Washing Tests - Composite 3

		Untreated Soil				Sar	nd After Separa	tion & Was	hing	•		
Parameter	Units	Soil Fraction < 12.5 mm Sample "C3-B"	Sand after F Separa Sample "	tion	Sand after W Wash Sample "C	ing	Sand after S Washi Sample "C	ing	Sand after S Washing at Temperatur Sample "C	Elevated e (130 F)	Sand after Surfactant Washing & Flotation Sample "C3-WS4"	
		Contaminant	Contaminant	Removal	Contaminant	Removal	Contaminant		Contaminant	Removal	Contaminant	Removal
		Concentration	Concentration	Efficiency	Concentration	Efficiency	Concentration		Concentration	Efficiency	Concentration	Efficiency
				(%)		(%)		(%)		(%)		(%)
HYDROCARBON 1)		0.400	100	000/	00.0	000/	07.7	000/	47.0	000/	10	000/
Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons	mg/kg mg/kg	2,400 2,670	102 189	96% 93%	20.0 35.4	99% 99%	27.7 45.8	99% 98%	17.2 ND	99%	13 ND	99%
POLYCYCLIC AROMATIC HYDRO		· · · · · · · · · · · · · · · · · · ·	109	93 /0	33.4	33/0	45.0	30 /0	ND	-	I ND	
1-Methylnapthalene	mg/kg	2.14	0.00724	100%	NA	_	NA		NA	_	0.00483	100%
	,	0.124	0.00724	96%	NA NA	-	NA NA	-	NA NA	-	0.00483	96%
2-Methylnaphthalene Acenaphthene	mg/kg mg/kg	0.671	0.00329	99%	NA NA	-	NA NA	-	NA NA	-	0.00463 ND	- 90%
Acenaphthylene	mg/kg	ND	0.00807 ND	-	NA NA	-	NA NA	_	NA NA	_	ND ND	
Anthracene	mg/kg	0.472	0.00473	99%	NA NA	_	NA NA	-	NA NA	_	ND ND	
Benzo (a) anthracene	mg/kg	ND	ND	3370	NA NA	_	NA NA	_	NA NA	_	ND ND	
Benzo (a) pyrene	mg/kg	0.112	ND	_	NA NA	_	NA NA	_	NA NA	_	ND	_
Benzo (b) fluoranthene	mg/kg	ND	ND	_	NA NA	_	NA NA	_	NA NA	_	ND	_
Benzo (ghi) perylene	mg/kg	0.124	ND	_	NA NA	_	NA NA	_	NA NA	_	ND	_
Benzo (k) fluoranthene	mg/kg	ND	ND	_	NA NA	_	NA NA	_	NA	_	ND	_
Chrysene	mg/kg	0.224	0.00529	98%	NA NA	_	NA NA	_	NA NA	-	ND	_
Dibenzo (a,h) anthracene	mg/kg	ND	ND	-	NA NA	_	NA NA	_	NA NA	-	ND	_
Fluoranthene	mg/kg	ND	ND	_	NA NA	-	NA	_	NA	_	ND	_
Fluorene	mg/kg	0.845	ND	-	NA	-	NA	-	NA	-	ND	_
Indeno (1,2,3-cd) pyrene	mg/kg	0.124	ND	-	NA	-	NA	-	NA	-	ND	-
Naphthalene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-
Phenanthrene	mg/kg	1.06	0.00752	99%	NA	-	NA	-	NA	-	0.00456	100%
Pyrene	mg/kg	0.348	0.01090	97%	NA	-	NA	-	NA	-	ND	-
POLYCHLORINATED BI-PHENYLS	(PCB) ³	i)			•			I.			•	
Aroclor-1016	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	ND	-
Aroclor-1221	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	ND	-
Aroclor-1232	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	ND	-
Aroclor-1242	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	ND	_
Aroclor-1248	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	ND	-
Aroclor-1254	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	ND	_
Aroclor-1260	mg/kg	0.107	NA	-	NA	-	NA	-	NA	-	0.0285	73%

ND: not detected NA: not analyzed

Notes:

1): Hydrocarbon by method NWTPH-Dx
2): PAH by method EPA 8270 mod.

Table 10: Analytical Results Soil Washing Tests - Sample TS2II

•		Untreated Soil					Sand	After Sepa	ration & Washi	ng				
Parameter	Units	Soil Fraction < 12.5 mm Sample "TS2U-B"	Sand after H Separa Sample "T	tion	Sand after W Washi Sample "TS	ng	Sand after S Wash Sample "TS	ing	Sand after S Washing at Temperatur Sample "TS	Elevated e (130 F)	Sand after S Washing & Sample "TS	Flotation	Sand after S Washing & F Elevated Ter (130 Sample "TS	lotation at nperature F)
		Contaminant Concentration	Contaminant Concentration	Removal Efficiency (%)	Contaminant Concentration	Removal Efficiency (%)	Contaminant Concentration	Removal Efficiency (%)	Contaminant Concentration	Removal	Contaminant Concentration	Removal Efficiency (%)	Contaminant Concentration	Removal Efficiency (%)
YDROCARBON 1)		<u> </u>	ļ.	(70)	ļ	(70)	<u>I</u>	(70)	I	(70)		(70)	I	(70)
Diesel Range Hydrocarbons	mg/kg	10,700	121 ³⁾	Note 3)	3,600	66%	3,670	66%	3,280	69%	2,470	77%	2,450	77%
Heavy Oil Range Hydrocarbons	mg/kg	13,000	198 ³⁾	Note 3)	4,660	64%	4,470	66%	4,000	69%	3,040	77%	2,820	78%
OLYCYCLIC AROMATIC HYDRO			100	11010	1,000	0470	1,110	0070	1,000	0070	0,010	1170	2,020	1070
1-Methylnapthalene	mg/kg	ND I	0.368	_	NA	_	NA	_	NA	_	ND	_	0.100	
2-Methylnaphthalene	mg/kg	1.20	0.958	20%	NA	-	NA NA	-	NA NA	-	0.230	81%	0.254	79%
Acenaphthene	mg/kg	0.711	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Acenaphthylene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Anthracene	mg/kg	1.47	0.402	73%	NA	-	NA	-	NA	-	0.296	80%	0.208	86%
Benzo (a) anthracene	mg/kg	0.442	0.249	44%	NA	-	NA	-	NA	-	ND	-	0.116	-
Benzo (a) pyrene	mg/kg	0.245	0.136	44%	NA	-	NA	-	NA	-	ND	-	ND	-
Benzo (b) fluoranthene	mg/kg	0.540	0.204	62%	NA	-	NA	-	NA	-	ND	-	ND	-
Benzo (ghi) perylene	mg/kg	0.270	ND	-	NA	-	NA	-	NA	-	ND	-	ND	-
Benzo (k) fluoranthene	mg/kg	ND	0.153	-	NA	-	NA	-	NA	-	ND	-	ND	-
Chrysene	mg/kg	0.662	0.346	48%	NA		NA	-	NA	-	0.214	68%	0.154	77%
Dibenzo (a,h) anthracene	mg/kg	ND	ND	-	NA	•	NA	-	NA	-	ND	-	ND	-
Fluoranthene	mg/kg	1.69	0.652	61%	NA	-	NA	-	NA	-	0.428	75%	0.316	81%
Fluorene	mg/kg	ND	ND	-	NA	-	NA	-	NA	-	ND	-	0.100	-
Indeno (1,2,3-cd) pyrene	mg/kg	ND	0.0737	-	NA	-	NA	-	NA	-	ND	-	ND	-
Naphthalene	mg/kg	0.613	0.340	45%	NA	-	NA	-	NA	-	ND	-	0.108	82%
Phenanthrene	mg/kg	1.05	0.539	49%	NA	-	NA	-	NA	-	0.312	70%	0.216	79%
Pyrene	mg/kg	4.95	2.70	45%	NA	-	NA	-	NA	-	1.12	77%	0.887	82%
OLYCHLORINATED BI-PHENYLS	S (PCB) 3	3)												
Aroclor-1016	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
Aroclor-1221	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
Aroclor-1232	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
Aroclor-1242	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
Aroclor-1248	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
Aroclor-1254	mg/kg	ND	NA	-	NA	-	NA	-	NA	-	NA	-	NA	-
Aroclor-1260	mg/kg	0.313	NA	-	NA	-	NA	-	NA		NA	-	NA	-

ND: not detected NA: not analyzed

Notes:

1: Hydrocarbon by method NWTPH-Dx
2: PAH by method EPA 8270 mod.

³⁾: Analytical results suspect, as they are not consistent with other data

Table 11: Comparison Soil Washing Results for all Samples

Table 11: Comparison Soil Wash				tion < 12.5	mm Befor	e Washing (Sa	mple "B")		Sand Aft	er Surfacta	nt Washing		C	Contamina	nt Remova	l Efficiency (%	6)
Parameter	Units	Soil Screening Level (mg/kg)	C1	C2	С3	Average Composites # 1, #2, #3	Sample TS2U	C1	C2	С3	Average Composites # 1, #2, #3	Sample TS2U	C1	C2	С3	Average Composites # 1, #2, #3	Sample TS2U
HYDROCARBON 1)																	
Diesel Range Hydrocarbons	mg/kg	NSA	7,440	1,440	2,400	3,760	10,700	274	43	28	115	3,280	96%	97%	99%	97%	69%
Heavy Oil Range Hydrocarbons	mg/kg	NSA	4,530	1,040	2,670	2,747	13,000	184	43	46	91	4,000	96%	96%	-	96%	69%
POLYCYCLIC AROMATIC HYDR	OCARBO	ON (PAH) 2)															
1-Methylnapthalene	mg/kg	22	ND	ND	2.14	2.14	ND	ND	ND	0.00483	0.00483	ND	-	-	100%	100%	-
2-Methylnaphthalene	mg/kg	310	0.121	ND	0.124	0.123	1.20	0.0063	ND	0.00483	0.00556	0.230	95%	-	96%	95%	81%
Acenaphthene	mg/kg	52.3	1.49	ND	0.671	1.08	0.711	ND	ND	ND	ND	ND	-	-	-	-	-
Acenaphthylene	mg/kg	78	ND	0.0803	ND	0.0803	ND	ND	ND	ND	ND	ND	-	-	-	-	-
Anthracene	mg/kg	1040	1.07	0.522	0.472	0.688	1.47	0.0401	ND	ND	0.04010	0.296	96%	-	-	96%	80%
Benzo (a) anthracene	mg/kg	0.15	0.220	0.110	ND	0.165	0.442	0.0071	ND	ND	0.00710	ND	97%	-	-	97%	-
Benzo (a) pyrene	mg/kg	0.02	0.147	ND	0.112	<0.086	0.245	ND	ND	ND	ND	ND	-	-	-	-	-
Benzo (b) fluoranthene	mg/kg	0.15	0.142	ND	ND	0.142	0.540	0.0044	ND	ND	0.00437	ND	97%	-	-	97%	-
Benzo (ghi) perylene	mg/kg	1178	0.152	ND	0.124	0.138	0.270	ND	ND	ND	ND	ND	-	-	-	-	-
Benzo (k) fluoranthene	mg/kg	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-
Chrysene	mg/kg	15	0.325	0.171	0.224	0.240	0.662	0.0120	ND	ND	0.01200	0.214	96%	-	-	96%	68%
Dibenzo (a,h) anthracene	mg/kg	0.02	0.136	ND	ND	0.045	ND	ND	ND	ND	ND	ND	-	-	-	-	-
Fluoranthene	mg/kg	364	0.435	0.156	ND	0.296	1.69	0.0161	ND	ND	0.01610	0.428	96%	-	-	96%	75%
Fluorene	mg/kg	54.8	0.535	0.346	0.845	0.575	ND	0.0104	ND	ND	0.01040	ND	98%	-	-	98%	-
Indeno (1,2,3-cd) pyrene	mg/kg	0.15	0.142	ND	0.124	0.133	ND	ND	ND	ND	ND	ND	-	-	-	-	-
Naphthalene	mg/kg	0.078	0.278	ND	ND	0.093	0.613	ND	ND	ND	ND	ND	-	-	-	-	-
Phenanthrene	mg/kg	79	0.666	0.361	1.06	0.696	1.05	0.0218	ND	0.00456	0.01318	0.312	97%	-	100%	98%	70%
Pyrene	mg/kg	359	0.985	0.401	0.348	0.578	4.95	0.0551	0.00445	ND	0.02978	1.12	94%	99%	-	97%	77%

Notes:
Shading indicates detection above lowest soil screening level.

NSA: No Screening Level Available
ND: not detected

NA: not analyzed

^{1):} Hydrocarbon by method NWTPH-Dx

²⁾: PAH by method EPA 8270 mod.

Table 12: Results Hydrocarbon and PAH analysis for Simulated Filter Cake

		Soil	Fines	Fraction After Hydraulic So (Samp	-	er Cake
Parameter	Units	Screening Level (mg/kg)	Composite 1	Composite 2	Composite 3	Sample TS2U
YDROCARBON 1)						
Diesel Range Hydrocarbons	mg/kg	NSA	23,800	19,400	26,500	22,600
Heavy Oil Range Hydrocarbons	mg/kg	NSA	15,100	14,200	27,200	28,200
OLYCYCLIC AROMATIC HYDROC	ARBON (P	AH) ²⁾				
1-Methylnapthalene	mg/kg	22	ND	ND	2.00	0.675
2-Methylnaphthalene	mg/kg	310	0.225	ND	0.638	1.74
Acenaphthene	mg/kg	52.3	ND	ND	7.54	ND
Acenaphthylene	mg/kg	78	ND	1.18	ND	ND
Anthracene	mg/kg	1040	1.44	0.775	2.86	1.74
Benzo (a) anthracene	mg/kg	0.15	1.20	0.541	0.555	0.675
Benzo (a) pyrene	mg/kg	0.02	0.356	0.244	ND	ND
Benzo (b) fluoranthene	mg/kg	0.15	0.833	0.414	ND	ND
Benzo (ghi) perylene	mg/kg	1178	0.375	0.223	0.361	ND
Benzo (k) fluoranthene	mg/kg	1.5	ND	ND	ND	ND
Chrysene	mg/kg	15	1.86	0.923	1.41	1.11
Dibenzo (a,h) anthracene	mg/kg	0.02	0.515	0.180	ND	ND
Fluoranthene	mg/kg	364	0.637	0.414	0.64	1.64
Fluorene	mg/kg	54.8	ND	1.06	3.13	ND
Indeno (1,2,3-cd) pyrene	mg/kg	0.15	0.309	0.212	ND	ND
Naphthalene	mg/kg	0.078	ND	ND	1.19	ND
Phenanthrene	mg/kg	79	1.19	1.81	3.72	1.69
Pyrene	mg/kg	359	13.0	5.34	2.69	7.42

Shading indicates detection above lowest soil screening level.

NSA: No Screening Level Available

ND: not detected NA: not analyzed

1): Hydrocarbon by method NWTPH-Dx 2): PAH by method EPA 8270 mod.

Table 13: Analytical Results Soil Washing Wash Water

	Screening Wash Water after Flocculation (Sample WW) 2)					
		Level	Composite #1	Composite #2	Composite #3	Sample TS2U
Type	Analytes ¹⁾	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
ТРН	Diesel Range Organics	NSA	4,520	4,650	2,570	15,000
₽	Heavy Oil Range Hydrocarbons	NSA	712	936	801	1,570
Polynuclear Aromatic Hydrocarbon (PAH)	1-Methylnapthalene	NSA	0.71	0.88	12	1.1
	2-Methylnaphthalene	NSA	0.43	1.10	9.7	4.3
	Acenaphthene	670	0.60	0.16	1.10	ND
	Acenaphthylene	NSA	ND	ND	0.19	ND
	Anthracene	8300	0.074	ND	0.11	ND
	Benzo (a) anthracene	0.0038	0.019	0.014	0.011	ND
ဝင္ပရ	Benzo (a) pyrene	0.0038	0.0073	0.0049	0.0055	ND
χġ	Benzo (b) fluoranthene	0.0038	0.012	0.0089	0.011	ND
Ξ̈́	Benzo (ghi) perylene	NSA	0.0045	0.0031	0.007	ND
nati	Benzo (k) fluoranthene	0.0038	0.0045	0.0027	ND	ND
5	Chrysene	0.0038	0.044	0.031	0.040	ND
۲٩	Dibenzo (a,h) anthracene	0.0038	0.0029	0.0024	0.0022	ND
lea	Fluoranthene	130	0.15	ND	0.060	ND
l ă	Fluorene	1100	0.47	0.28	1.50	ND
<u>6</u>	Indeno (1,2,3-cd) pyrene	0.0038	0.0034	0.0021	0.0032	ND
_	Naphthalene	NSA	0.75	0.26	1.90	0.31
	Phenanthrene	NSA	0.27	0.18	0.93	0.16
	Pyrene	830	0.26	0.12	0.009	0.11
	1,2,4-Trimethylbenzene	NSA	0.038	0.11	ND	ND
	1,2-Dichloroethane	0.38	ND	0.035	ND	ND
	1,4-Dichlorobenzene	NSA	0.099	ND	ND	ND
	4-Isopropyltoluene	NSA	0.098	ND	0.076	ND
	Benzene	NSA	ND	0.087	0.02	0.018
	Bromoform	4.3	5.5	5.6	3.5	3.0
	Carbon tetrachloride	0.23	ND	0.023	ND	ND
	Chlorodibromomethane	0.4	0.78	1.2	0.86	0.91
Volatile Organic Compounds	Chloroform	5.7	1.9	2.7	2.2	2.1
olatile Organi Compounds	Chloromethane	NSA	0.048	0.1	0.093	0.087
le C	Dibromomethane	NSA	0.12	0.12	0.21	0.17
lati On	Dichlorobromomethane	0.55	0.78	1.1	0.88	0.90
۶	Ethylbenzene	530	ND	0.064	0.072	ND
	Isopropylbenzene	NSA	ND	0.023	0.17	ND
	Methylene Chloride	4.6	0.51	3.6	3.5	3.1
	m-Xylene & p-Xylene	NSA	0.047	0.21	0.079	0.11
	N-Propylbenzene	NSA	ND	0.033	0.33	ND
	o-Xylene	NSA	0.021	0.11	0.031	0.032
	sec-Butylbenzene	NSA	ND	0.045	0.3	ND
	tert-Butylbenzene	NSA	0.03	0.027	ND	ND
	Toluene	1,300	0.036	0.32	0.081	0.039

Notes:

Shading indicates detection above lowest screening level.

NSA: No Screening Level Available

VID: Not Detected

^{1):} Only analytes detected are reported in this table. For complete list of analytes refer to analytical reports provided in Appendix C.

^{2):} Ratio of Wash Water to Soil 1:5

Table 13: Analytical Results Soil Washing Wash Water (continued)

	Analytical Results Soil Washing	Screening	,	Wash Water after Flocculation (Sample WW) 2)				
		Level	Composite #1	Composite #2	Composite #3	Sample TS2U		
Type	Analytes 1)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)		
Semi-Volatile Organic Compounds	1,2-Dichlorobenzene	420	ND	ND	0.028	ND		
	2-Methylphenol	NSA	0.079	ND	0.032	ND		
	3 & 4 Methylphenol	NSA	ND	ND	0.051	ND		
	Benzyl alcohol	NSA	ND	0.16	ND	ND		
	Butyl benzyl phthalate	1,500	0.31	0.38	0.25	ND		
<u>×</u> ვ	Diethyl phthalate	17,000	ND	0.51	0.16	ND		
Semi	Di-n-butyl phthalate	2,000	ND	0.37	0.32	ND		
	Phenol	21,000	0.098	0.10	0.095	ND		
	Aluminum	NSA	2,400	1,700	940	1,000		
	Arsenic	50	4.4	5.3	2.8	6.7		
	Antimony	5.6	2.0	5.6	5.7	8.6		
	Barium	NSA	130	94	77	180		
	Beryllium	NSA	ND	ND	ND	ND		
	Calcium	NSA	57,000	64,000	70,000	70,000		
	Cadmium	0.6	ND	ND	ND	ND		
	Chromium	74	2.5	2.8	1.7	1.8		
	Cobalt	NSA	4.9	4.1	2.0	1.1		
v	Copper	11	13	10	8.6	18		
etal	Iron	NSA	2,200	2,500	1,100	990		
Total Metals	Lead	2.5	7.2	3.9	5.1	16		
ota	Magnesium	NSA	7,100	7,400	7,500	6,400		
-	Manganese	NSA	2,800	1,100	1,700	1,300		
	Mercury	NSA	ND	ND	ND	ND		
	Nickel	52	5.0	6.6	3.6	3.0		
	Potassium	NSA	3,900	3,700	3,500	3,600		
	Selenium	5	ND	ND	ND	ND		
	Silver	3.4	ND	ND	ND	ND		
	Sodium	NSA	46,000	45,000	38,000	38,000		
	Thallium	0.24	0.47	0.74	0.45	0.38		
	Vanadium	NSA	4.8	3.3	4.0	5.2		
	Zinc	120	12	13	13	14		

# Notes:

Shading indicates detection above lowest screening level.

NSA: No Screening Level Available

ND: Not Detected

^{1):} Only Analytes detected are reported in this table. For complete list of analytes refer to analytical reports provided in Appendix C.

^{2):} Ratio of Wash Water to Soil 1:5

Table 14: Projected Soil Washing Product "In-Out" Mass Balance on 1,000 Ton Basis

	Soil Mass including Moisture (tons)	Assumed Solids Content ¹⁾ (% by weight)	Soil Mass Dry (tons)	Mass Distribution on dry weight basis ²⁾ (%)
Contaminated Soil for Processing	1,000	93%	930	100.0%
Clean Products Washed Gravel (> 2.0 mm) Sand (0.038-2.0 mm)	686 278	95% 85%	652 236	70.1% 25.4%
Filter Cake Residue for off-site disposal Fines Filter Cake (<0.038 mm)	83 ³⁾	50%	42	4.5%

## Note:

^{1):} Estimated values; Solids Content = 100% - moisture content

^{2):} Based on calculated average particle size distribution results for composite samples analyzed in this study

³⁾: Filter Cake quantity based on assumed 50% dry solids by weight of filter cake produced by filter press. If filter cake is spread out and allowed to dry on open air before shipment to the landfill, the total total mass of filter cake may be further reduced.

# Attachment A Treatability Study Photos

# **PHOTOS**

Photo 1: TS1 - Soil as Received Photo 2: TS1 - Soil after Decantation Photo 3: TS1 - Soil after Decantation (II) Photo 4: TS2 - Soil as Received Photo 5: TS2 - Soil after Decantation Photo 6: TS2 - Soil after Decantation (II) Photo 7: TS3 - Soil as Received Photo 8: TS3 - Soil after Decantation Photo 9: TS3 - Soil after Decantation (II) Photo 10: TS4 - Soil as Received Photo 11: TS4 - Soil as Received Photo 12: TS5 - Soil as Received Photo 13: TS5 - Soil as Received (II) Photo 14: TS6 - Soil as Received Photo 15: TS6 - Soil after Decantation Photo 16: TS6 - Soil after Decantation (II) Photo 17: TS2U Soil as Received Photo 18: TS2U Soil as Received (II) Photo 19: Soil Fraction Greater than 12.5 mm (>1/2") after Dry Screening - Composite 1 Photo 20: Soil Fraction Greater than 12.5 mm (>1/2") after Washing - Composite 1 Photo 21: Soil Fraction Greater than 12.5 mm (>1/2") after Dry Screening - Composite 2 Photo 22: Soil Fraction Greater than 12.5 mm (>1/2") after Washing - Composite 2 Photo 23: Soil Fraction Greater than 12.5 mm (>1/2") after Dry Screening - Composite 3 Photo 24: Soil Fraction Greater than 12.5 mm (>1/2") after Washing - Composite 3 Photo 25: Sample TS2U - Soil Fraction Greater than 12.5 mm (>1/2") Containing Hardened tar-like Asphaltic Material - Sample TS2U Photo 26: Close-up Picture of Hardened Asphaltic Material - Sample TS2U Photo 27: Soil Fraction Greater than 12.5 mm (>1/2") after Dry Screening - Sample TS2U Photo 28: Soil Fraction Greater than 12.5 mm (>1/2") after Washing - Sample TS2U Photo 29: Soil Particle Size Fractions less than 12.5 mm (<1/2") - Composite 1 Photo 30: Soil Particle Size Fractions less than 12.5 mm (<1/2") - Composite 2 Photo 31: Soil Particle Size Fractions less than 12.5 mm (<1/2") - Composite 3 Photo 32: Soil Particle Size Fractions less than 12.5 mm (<1/2") - Sample TS2U Photo 33: Asphaltic Particles Soil fraction (4.75 - 12.5mm) - Sample TS2U Photo 34: Asphaltic Particles Soil fraction (2.0 - 4.75mm) - Sample TS2U Photo 35: Laboratory Flotation Machine Photo 36: Washing Test with Agitation only (no air) Photo 37: Flotation Test with Air - Composite 3 Photo 38: Flotation Test with Air - TS2U Photo 39: Flotation Concentrate - Sample TS2U Photo 40: Flotation Concentrate consisting of Asphaltic Particles - Sample TS2U Photo 41: Wash Water with Fines (<0.038 mm) and Floating Product

Photo 43: Fines Settling

Photo 44: Wash Water Decantation

Photo 42: Wash Water Flocculation



Photo 1: TS1 Soil as Received



Photo 2: TS1 - Soil after Decantation



Photo 3: TS1 - Soil after Decantation (II)



Photo 4: TS2 - Soil as Received



Photo 5: TS2 - Soil after Decantation



Photo 6: TS2 - Soil after Decantation (II)



Photo 7: TS3 - Soil as Received



Photo 8: TS3 - Soil after Decantation



Photo 9: TS3 - Soil after Decantation (II)



Photo 10: TS4 - Soil as Received



Photo 11: TS4 - Soil as Received (II)



Photo 12: TS5 - Soil as Received



Photo 13: TS5 - Soil as Received (II)



Photo 14: TS6 - Soil as Received



Photo 15: TS6- Soil after Decantation



Photo 16: TS6 - Soil after Decantation (II)



Photo 17: TS2U Soil as Received



Photo 18: TS2U Soil as Received



Photo 19: Soil Fraction Greater than 12.5 mm (>1/2") after Dry Screening - Composite 1



Photo 20: Soil Fraction Greater than 12.5 mm (>1/2") after Washing - Composite 1



Photo 21: Soil Fraction Greater than 12.5 mm (>1/2") after Dry Screening - Composite 2



Photo 22: Soil Fraction Greater than 12.5 mm (>1/2") after Washing - Composite 2



Photo 23: Soil Fraction Greater than 12.5 mm (>1/2") after Dry Screening - Composite 3



Photo 24: Soil Fraction Greater than 12.5 mm (>1/2") after Washing - Composite 3



Photo 25: Soil Fraction Greater than 12.5 mm (>1/2") containing Hardened tar-like Asphaltic Material – Sample TS2U



Photo 26: Close-up Picture of Hardened Asphaltic Material - Sample TS2U



Photo 27: Soil Fraction Greater than 12.5 mm (>1/2") after Dry Screening – Sample TS2U



Photo 28: Soil Fraction Greater than 12.5 mm (>1/2") after Washing – Sample TS2U



Photo 29: Soil Particle Size Fractions less than 12.5 mm (<1/2") - Composite 1



Photo 30: Soil Particle Size Fractions less than 12.5 mm (<1/2") - Composite 2



Photo 31: Soil Particle Size Fractions less than 12.5 mm (<1/2") - Composite 3



Photo 32: Soil particle size fractions less than 12.5 mm (<1/2") - Sample TS2U



Photo 33: Asphaltic Particles Soil fraction (4.75 – 12.5mm) - Sample TS2U



Photo 34: Asphaltic Particles Soil fraction (2.0 - 4.75mm) - Sample TS2U



Photo 35: Laboratory Flotation Machine



Photo 37: Flotation Test with Air - Composite 3



Photo 36: Washing Test with Agitation only (no air)



Photo 38: Flotation Test with Air - TS2U



Photo 39: Flotation Concentrate - Sample TS2U



Photo 40: Flotation Concentrate consisting of Asphaltic Particles - Sample TS2U



Photo 41: Wash Water with Fines (<0.038 mm) and Floating Product



Photo 42: Wash Water Flocculation



Photo 43: Fines Settling



Photo 44: Wash Water Decantation

# Attachment B Raw Data Collection Worksheets

# SITE: AVERY LANDING SITE, IDAHO

**Dry Screening Results - Composite 1** 

Sample ID	Soil Fraction	Net Weight (after decantation)	Dry Solids by Weight	Net Weight on dry weight basis	Mass Distribution
		(kg)	(%)	(kg)	(%)
Composite 1		58.55	92.0% ²⁾	53.86	100.0%
	> 12.5 mm	28.70	98.0% ¹⁾	28.13	52.2%
	< 12.5 mm	29.85	86.2%	25.74	47.8%
	Total	58.55		53.86	100.0%

**Dry Screening Results - Composite 2** 

Sample ID	Soil Fraction	Net Weight (after decantation) (kg)	Dry Solids by Weight (%)	Net Weight on dry weight basis (kg)	Mass Distribution (%)
Composite 2		52.05	95.6% ²⁾	49.78	100.0%
	> 12.5 mm	26.40	98.0% ¹⁾	25.87	52.0%
	< 12.5 mm	26.70	89.5%	23.90	48.0%
	Total	53.10		49.78	100.0%

**Dry Screening Results - Composite 3** 

Sample ID	Soil Fraction	Net Weight (after decantation) (kg)	Dry Solids by Weight (%)	Net Weight on dry weight basis (kg)	Mass Distribution (%)
Composite 3		57.95	94.2% 2)	54.57	100.0%
	> 12.5 mm	35.00	98.0% ¹⁾	34.30	60.4%
	< 12.5 mm	22.95	88.3%	20.27	39.6%
	Total	57.95		54.57	100.0%

**Dry Screening Results - Sample TS2U** 

		Net Weight	Dry Solids by	Net Weight on	
Sample ID	Soil Fraction	(after decantation)	Weight	dry weight basis	Mass Distribution
		(kg)	(%)	(kg)	(%)
TS2-U		18.65	94.3% ²⁾	17.59	100.0%
	> 12.5 mm	6.90	98.0% ¹⁾	6.76	37.0%
	< 12.5 mm	11.75	92.2%	10.83	63.0%
	Total	18.65		17.59	100.0%

#### Notes:

^{1):} Estimated Value

²⁾: Backcalculated Moisture Content

#### **RAW DATA COLLECTION DATA SHEET**

ART Engineering LLC October-09

# SITE: AVERY LANDING SITE, IDAHO

Results Gravel Washing (>12.5 mm)

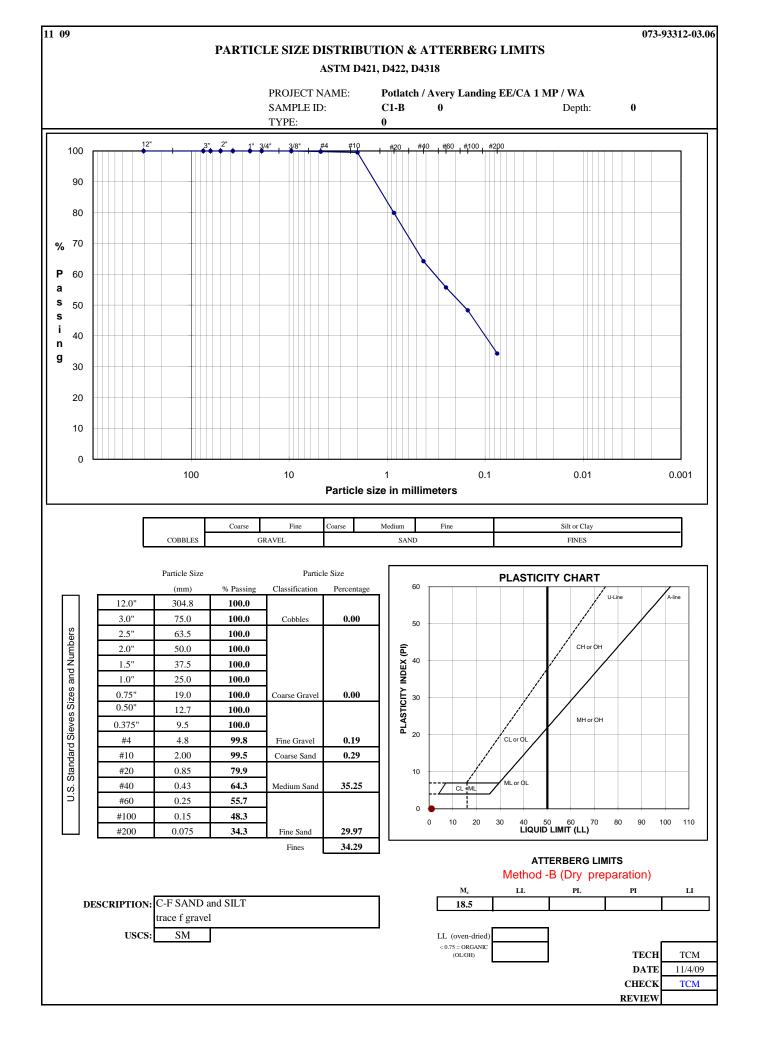
Sample ID	N	Mass (%)		
	Mass Gravel before Wet Washing (g)	Mass Adhering Soil - 12.5 mm (dry) (g)	Adhering Soil - 12.5 mm (dry) (%)	
Composite #1	1022	59.8	5.8%	
Composite #2	1035	58.9	5.7%	
Composite #3	1044	78.9	7.6%	
TS2-U	1016	64.4	6.3%	

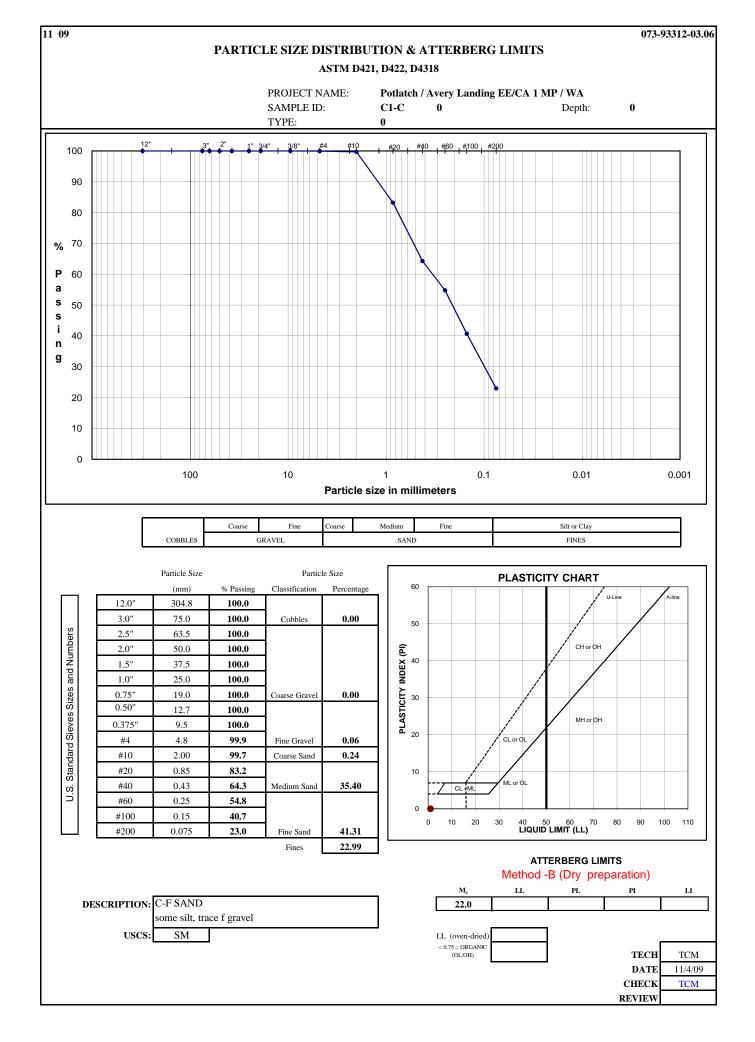
#### **RAW DATA COLLECTION DATA SHEET**

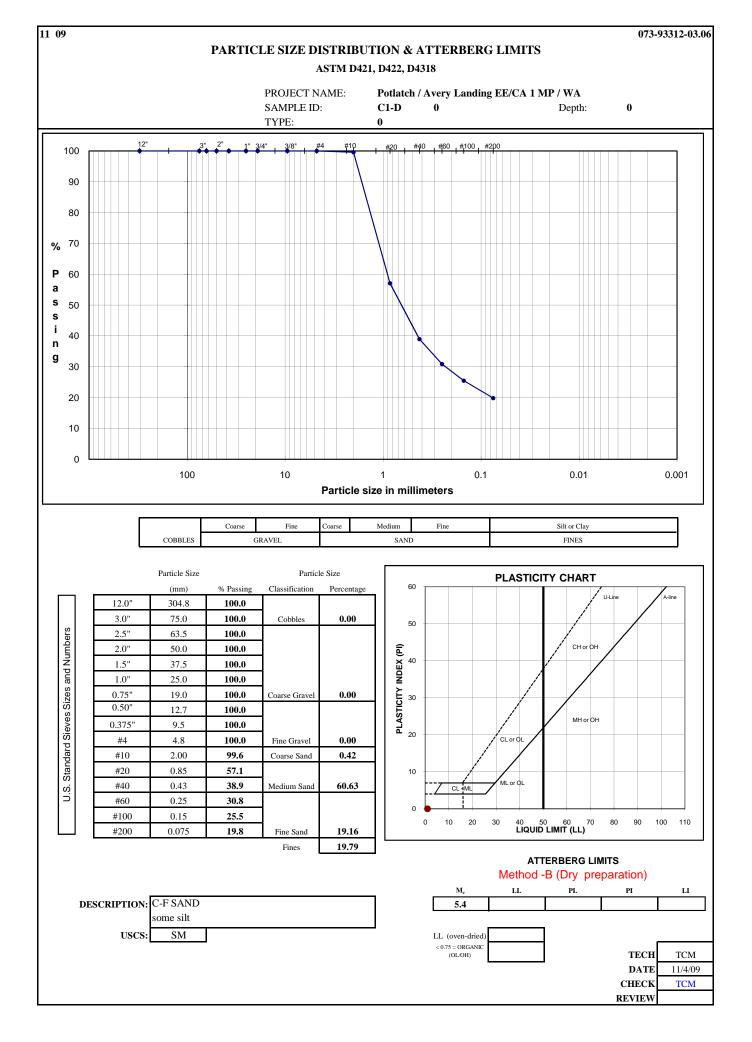
### ART Engineering LLC October-09

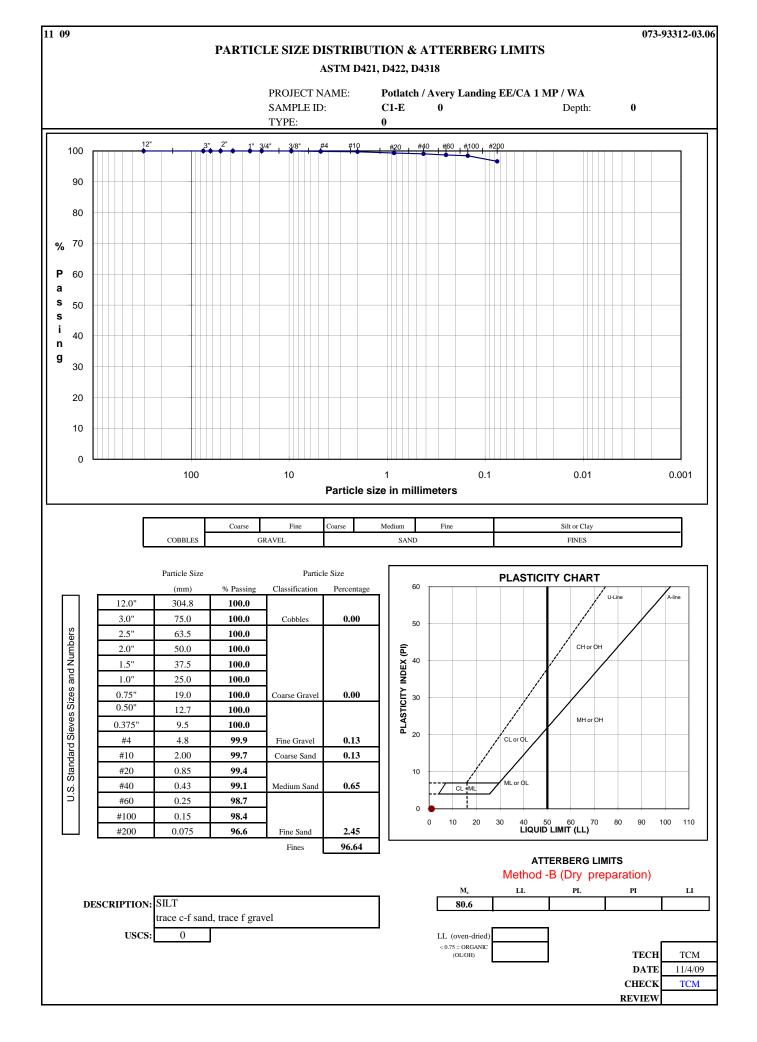
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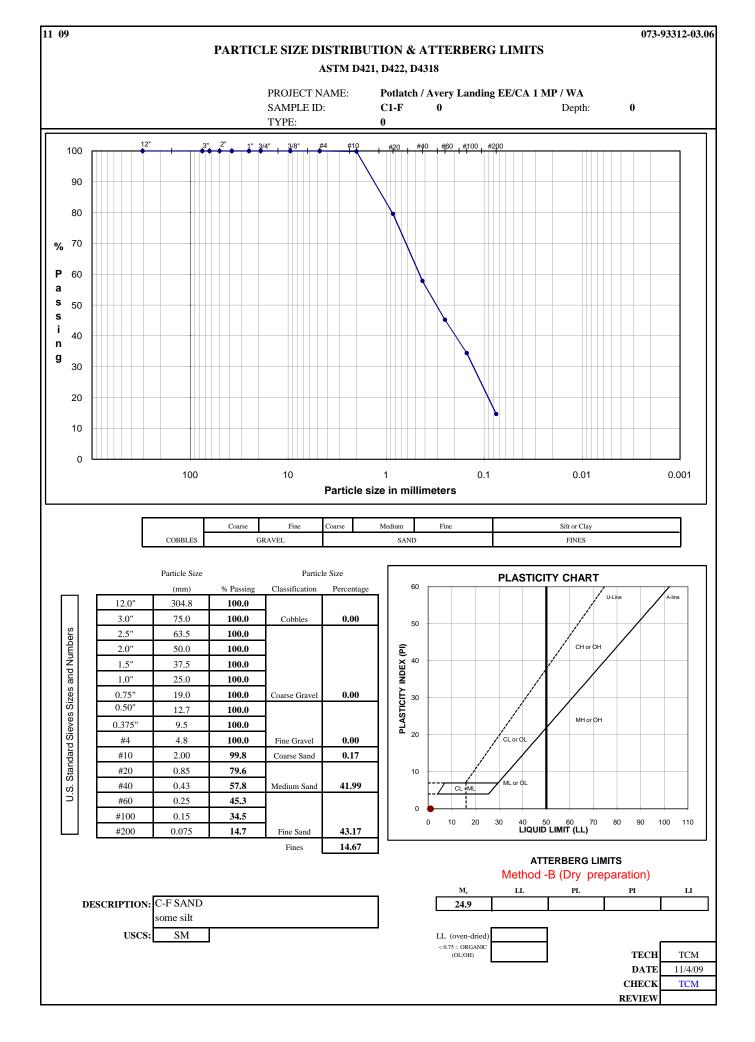
Fraction	Compo	site#1	Composite#2		Composite#3		TS2-U	
	Net	Distribution	Net	Distribution	Net	Distribution	Net	Distribution
	(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)
4.75-12.5 mm	52.43	18.4%	92.66	30.6%	87.55	30.7%	69.15	25.3%
2.0-4.75 mm	43.78	15.4%	57.55	19.0%	62.17	21.8%	40.00	14.6%
1.0-2.0 mm	33.09	11.6%	34.96	11.5%	35.07	12.3%	30.13	11.0%
0.5-1.0 mm	29.58	10.4%	37.24	12.3%	33.35	11.7%	36.86	13.5%
0.25-0.5 mm	20.76	7.3%	26.26	8.7%	14.58	5.1%	34.71	12.7%
0.125-0.25 mm	24.06	8.4%	16.27	5.4%	14.61	5.1%	18.53	6.8%
0.075-0.125mm	18.38	6.5%	7.85	2.6%	7.73	2.7%	11.38	4.2%
0.038-0.075 mm	23.96	8.4%	10.86	3.6%	10.65	3.7%	12.34	4.5%
<0.038 mm	38.74	13.6%	19.22	6.3%	19.07	6.7%	19.97	7.3%
Total	284.78	100.0%	302.87	100.0%	284.78	100.0%	273.07	100.0%
Sample Used for Particle Size Analysis (wet) - gram	341		345		327		309	
Moisture Anal.								
Tare	2.18		2.18		2.20		2.18	
+sample wet +sample dry	85.31 73.86		82.75 74.31		93.83 83.12		57.09 52.79	
% solids	86.2%		89.5%		88.3%		92.2%	

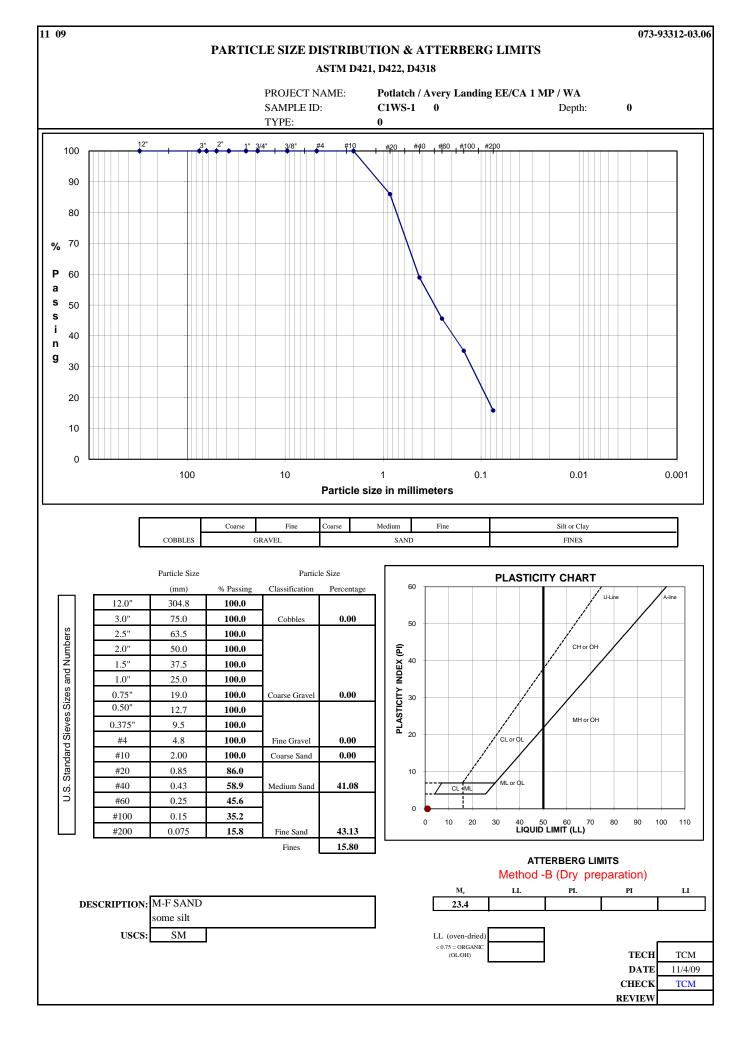


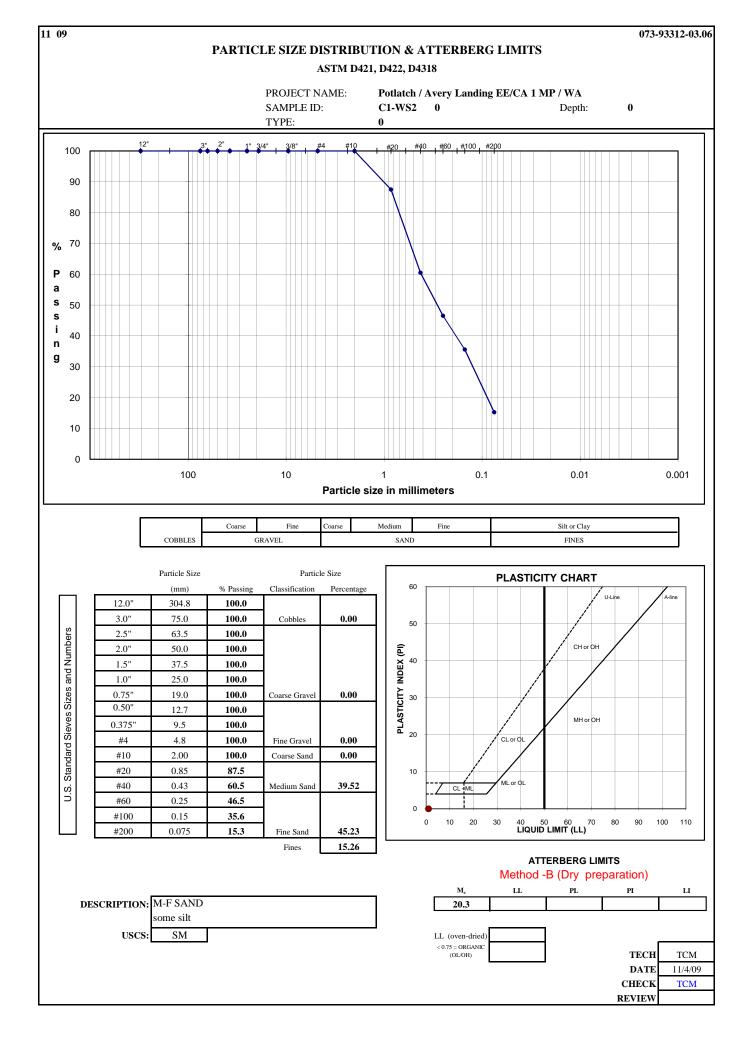


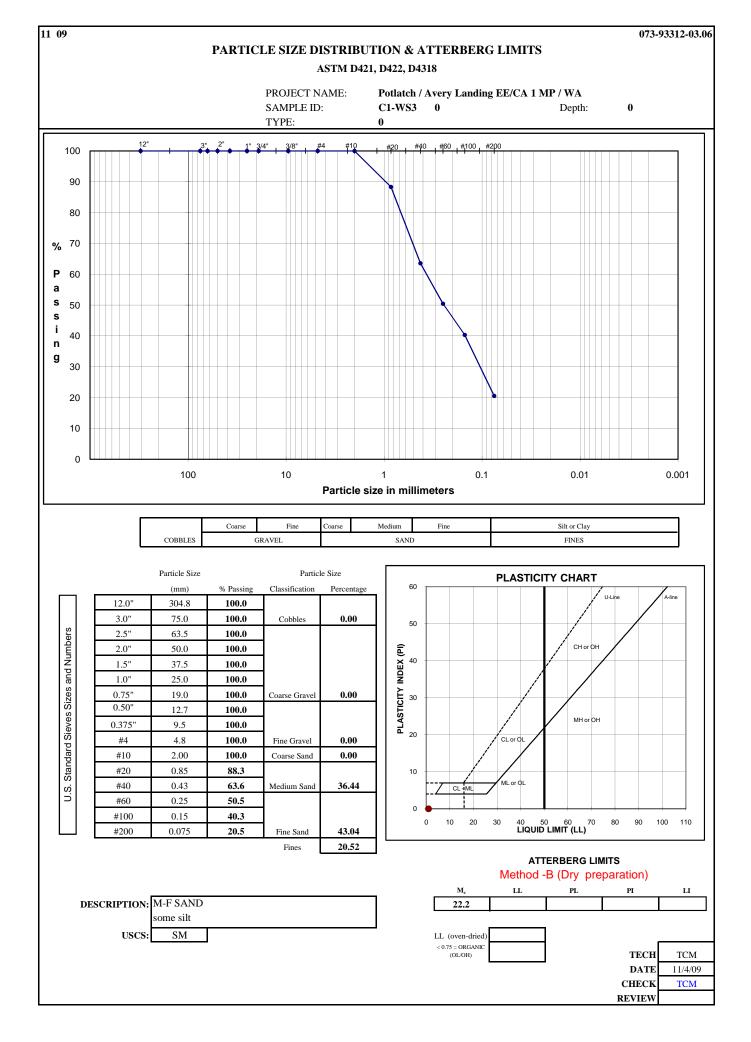


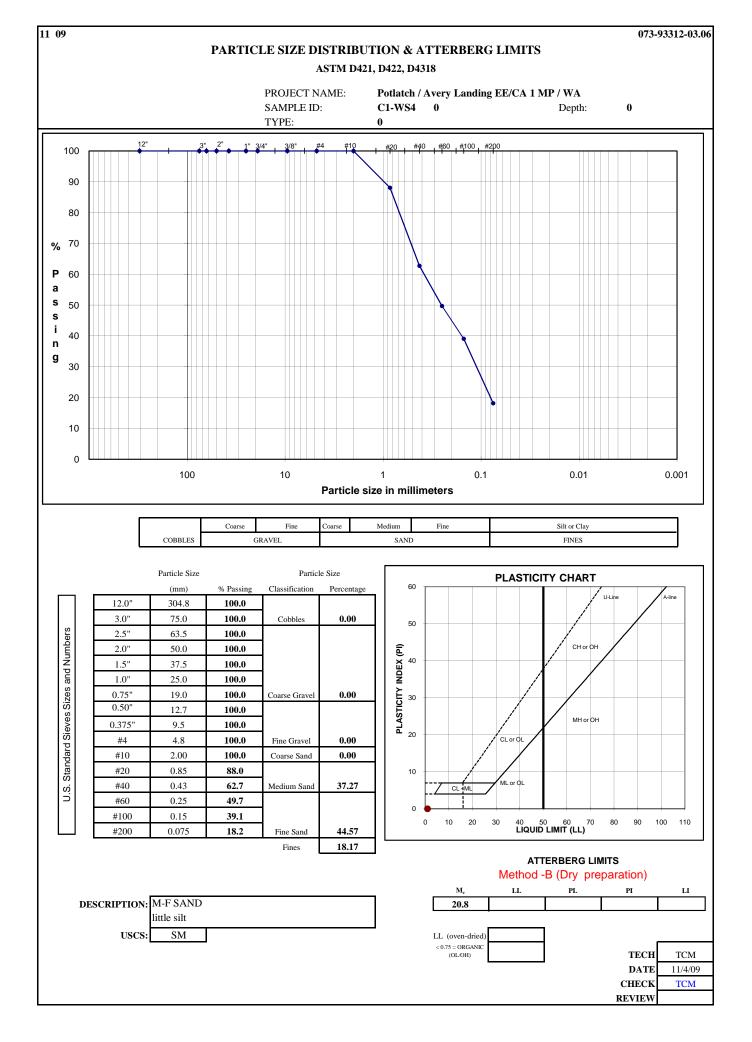


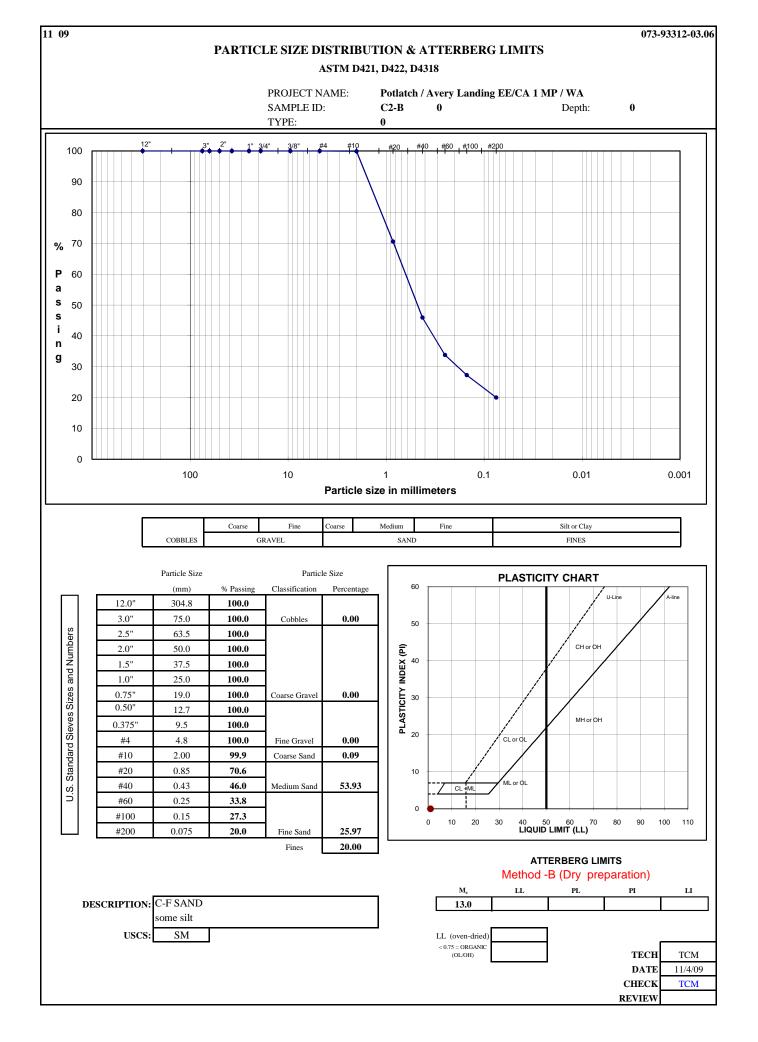


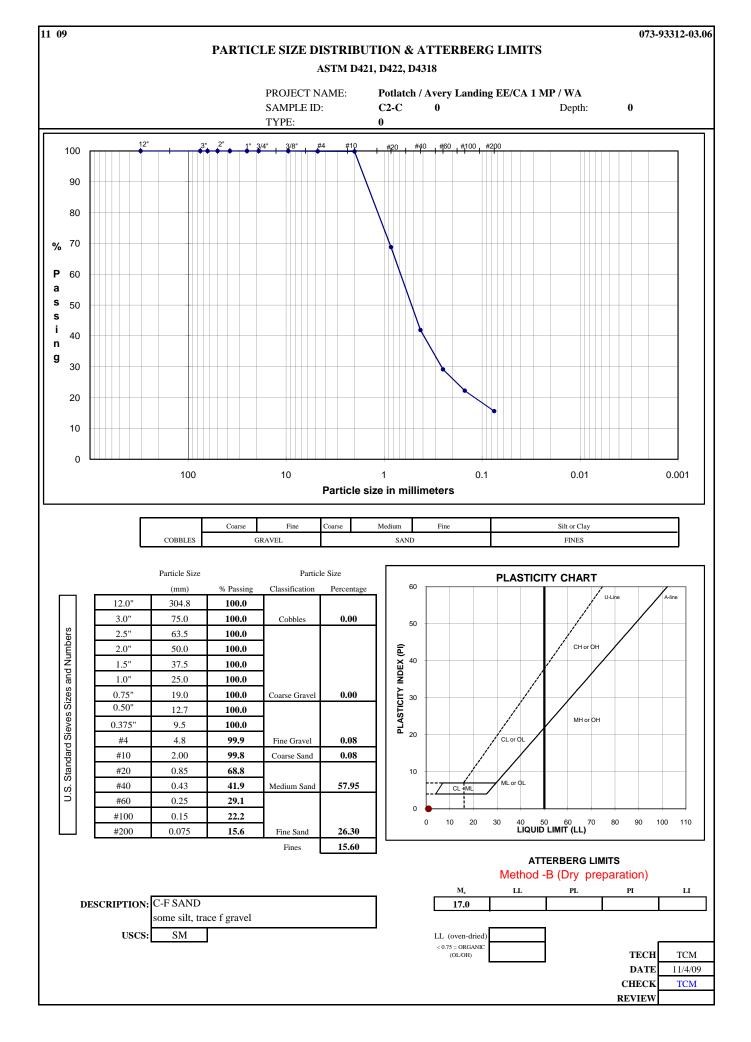


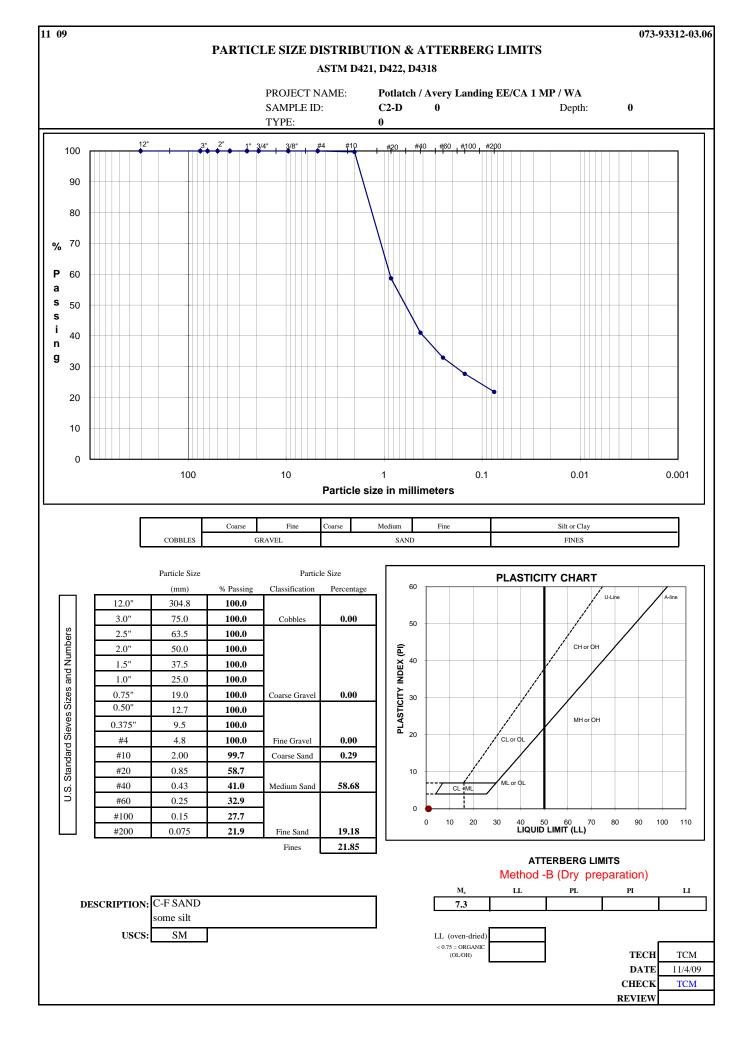


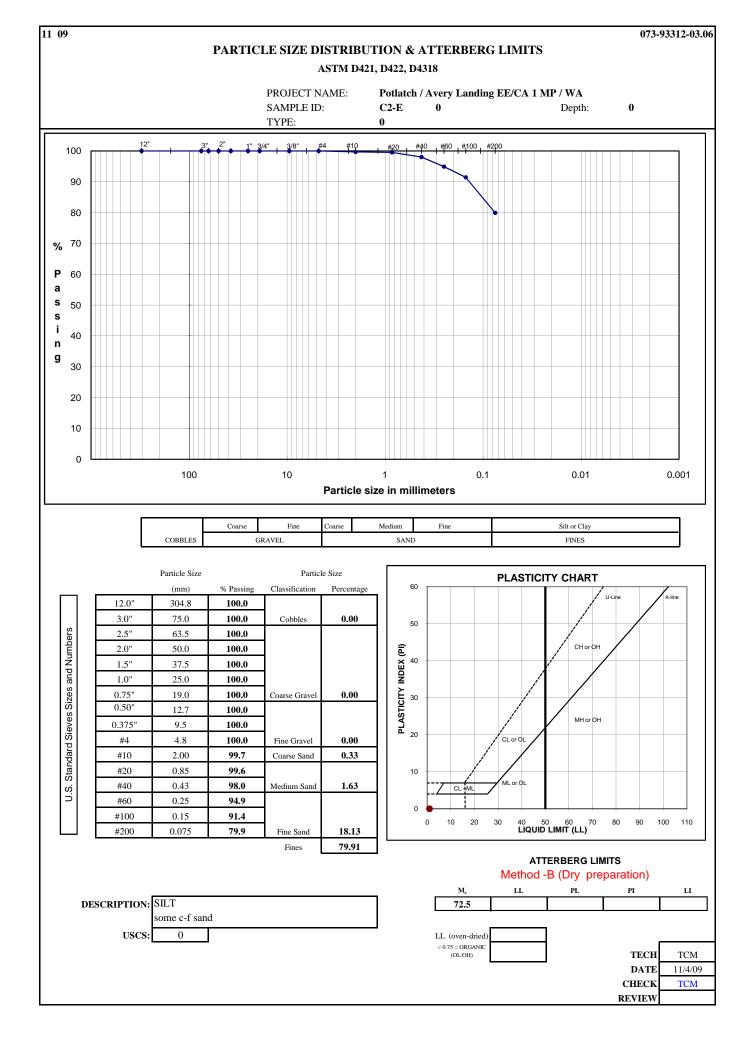


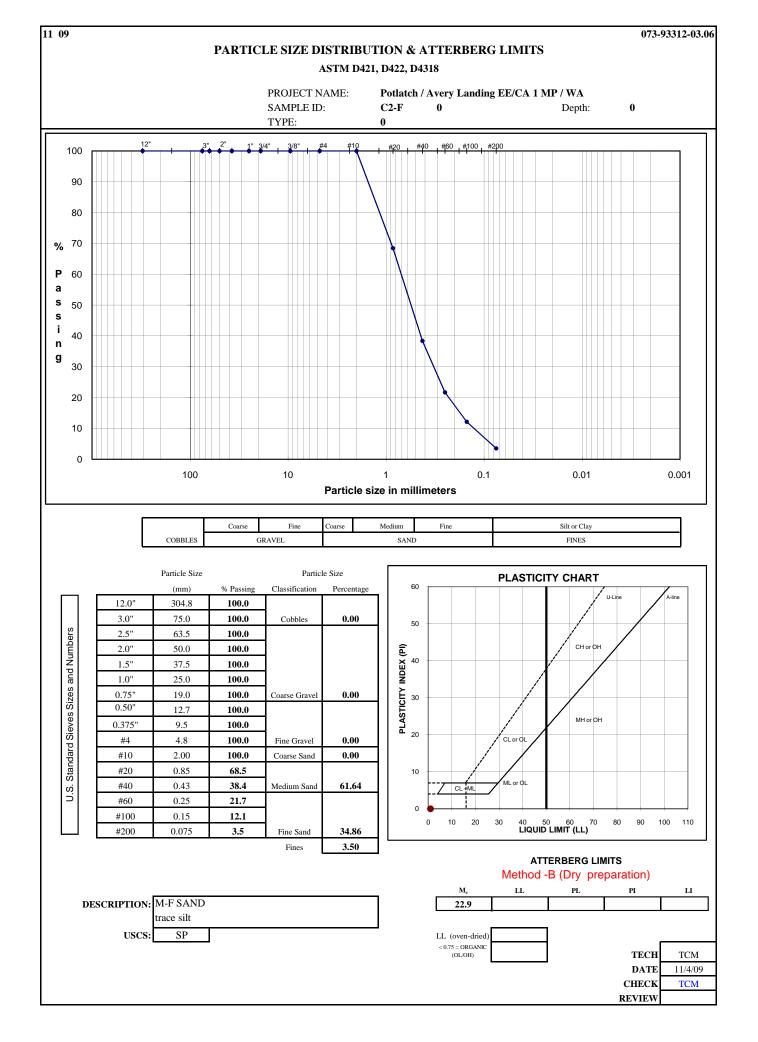


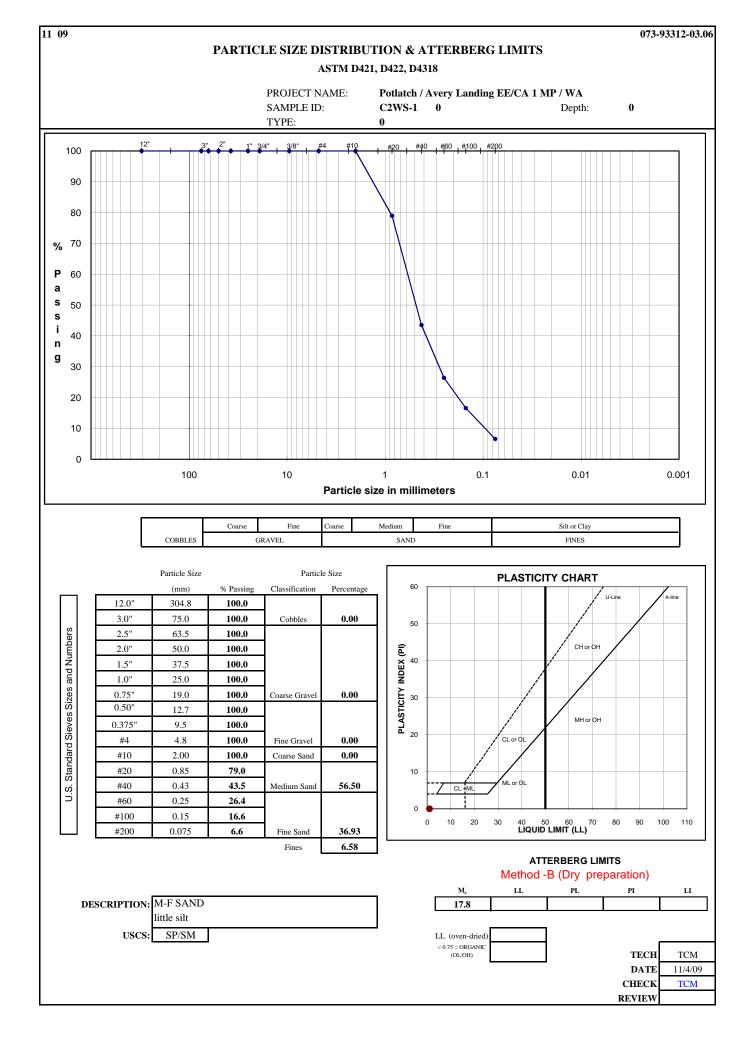


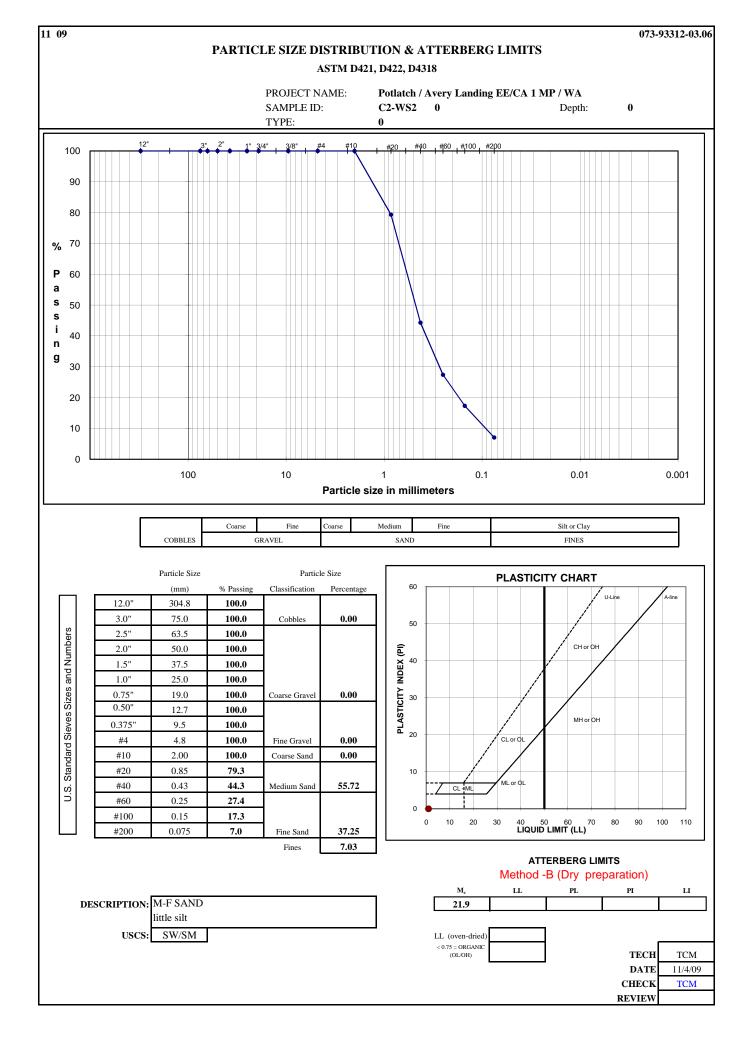


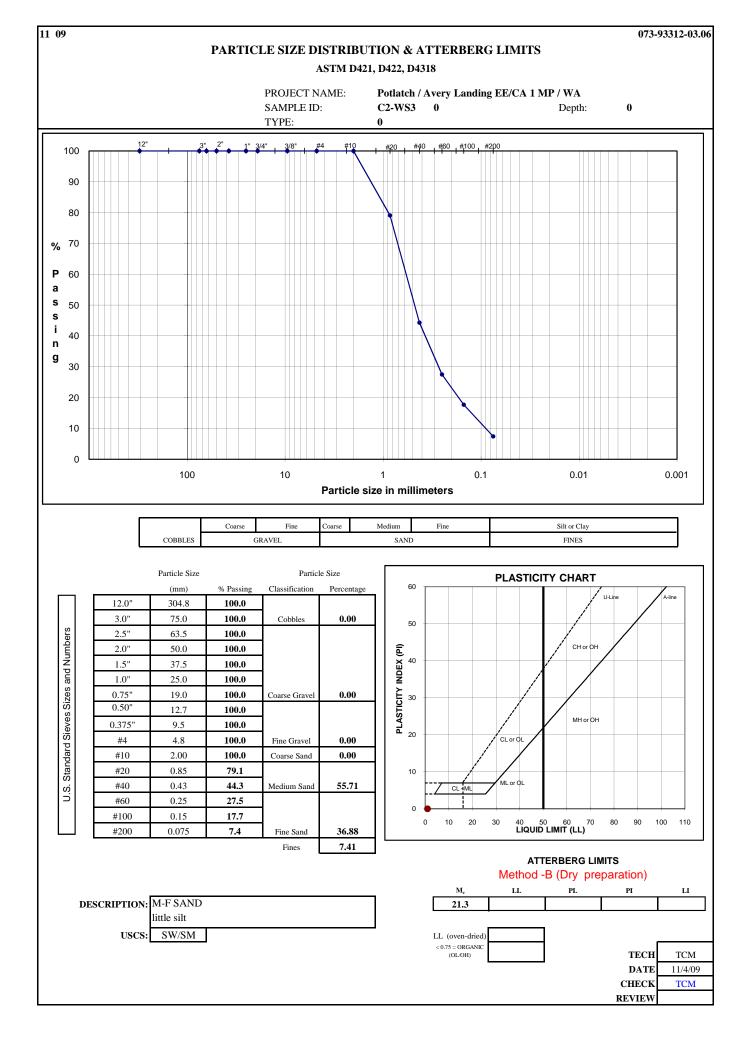


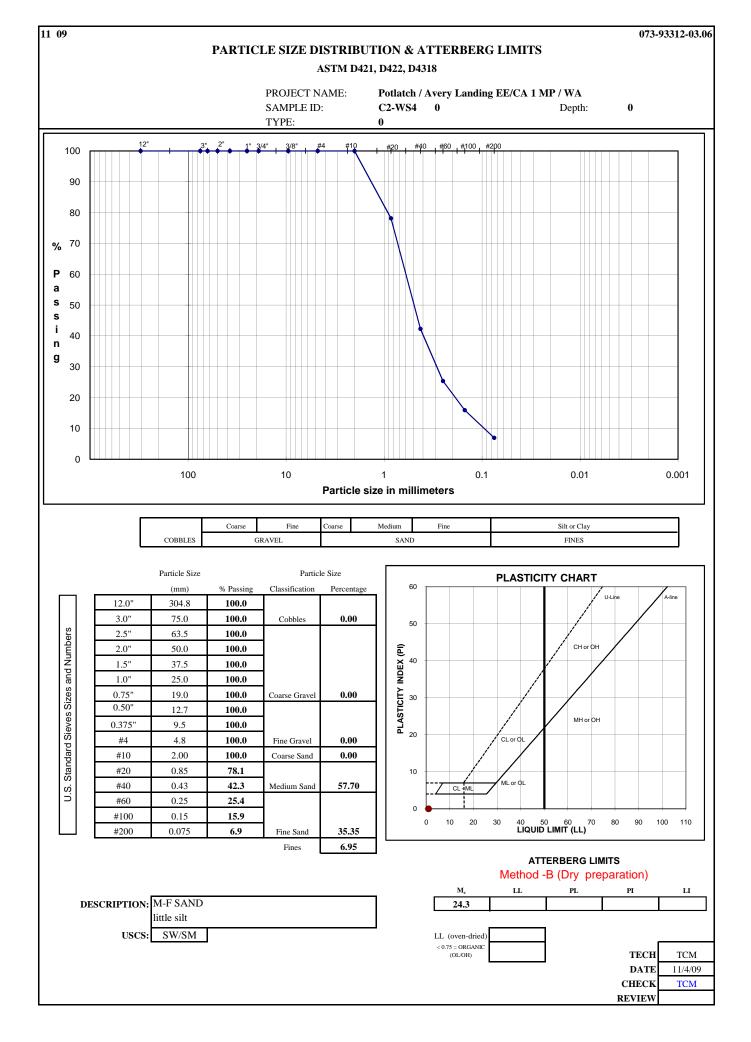


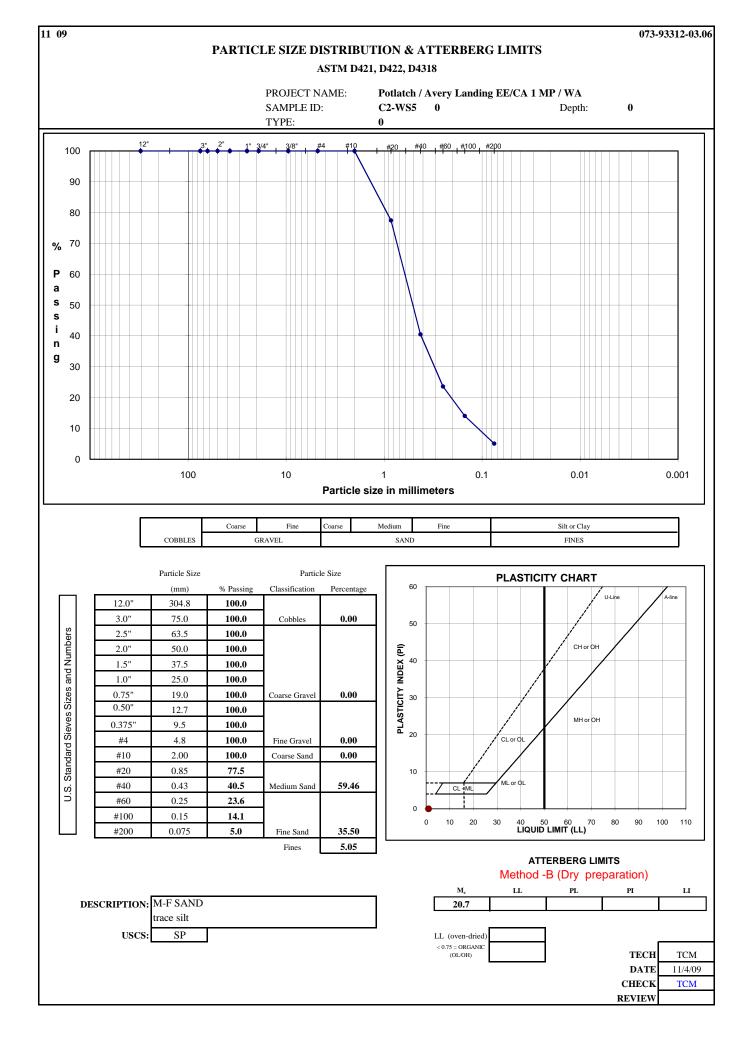


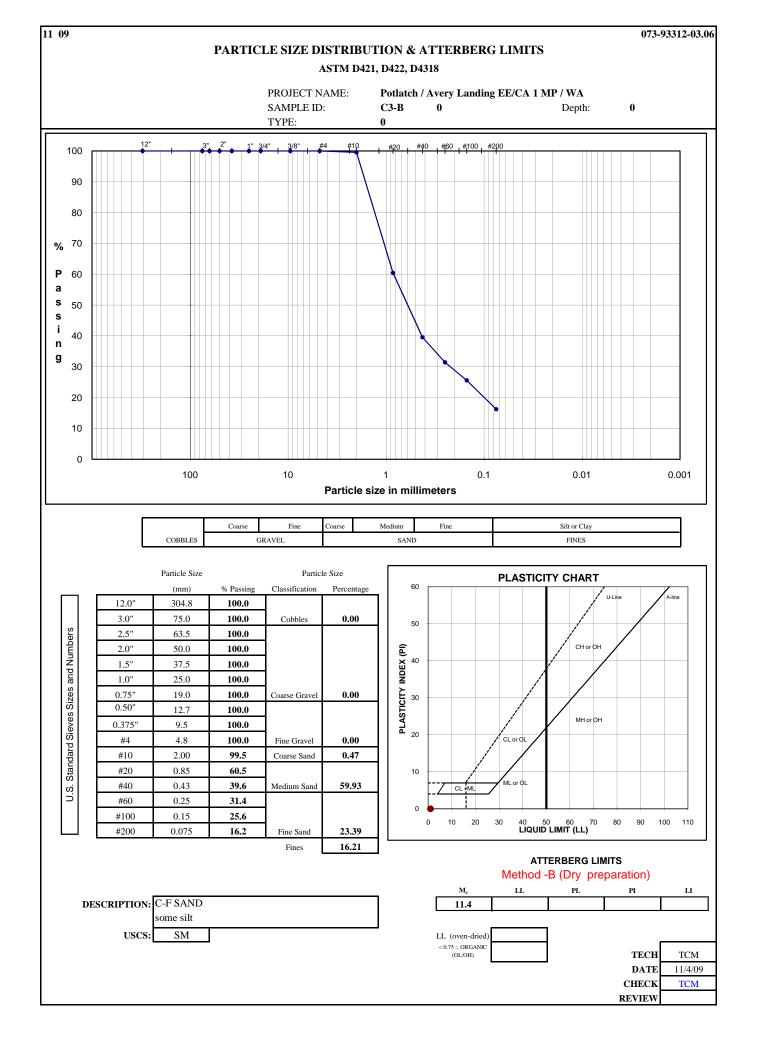


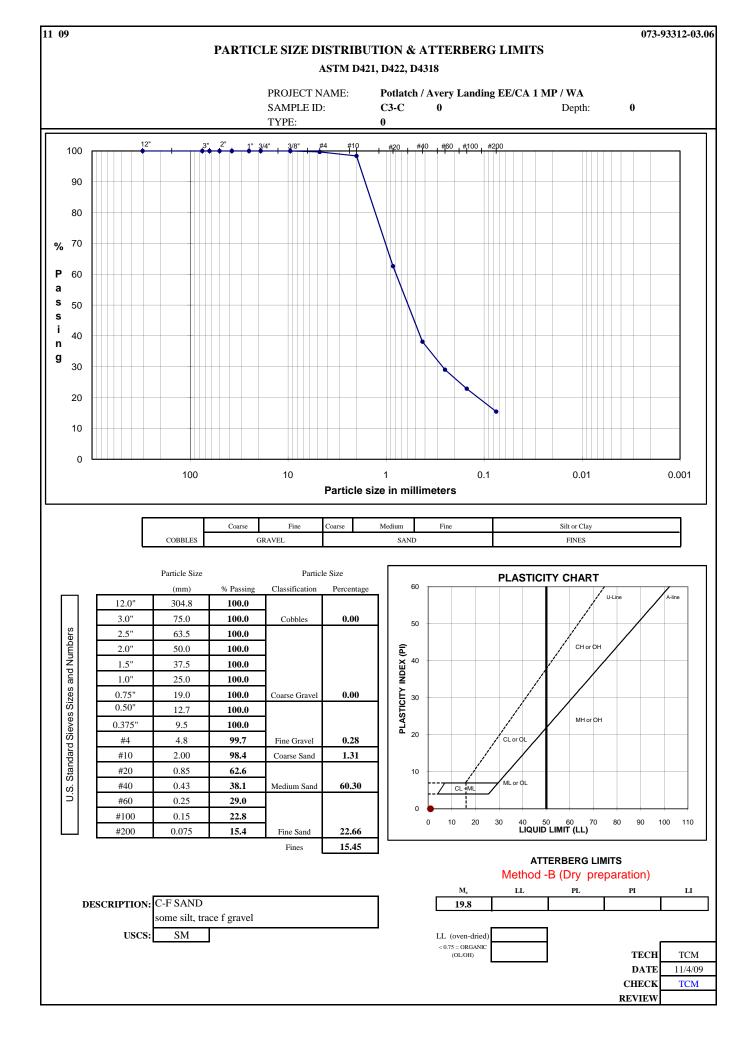


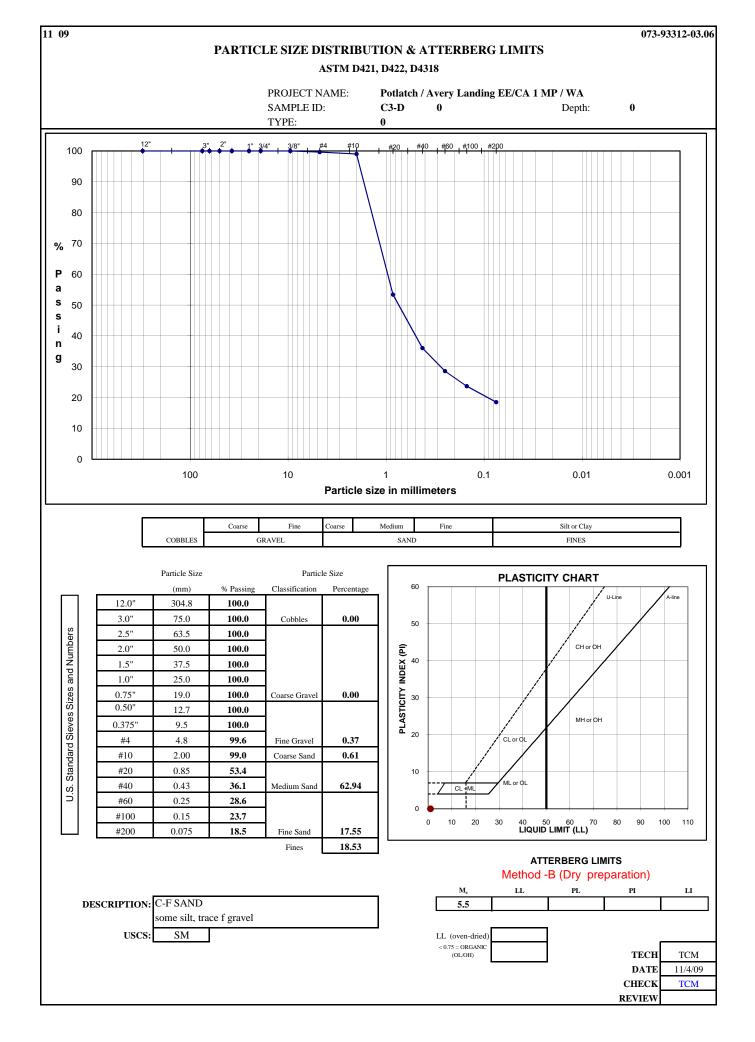


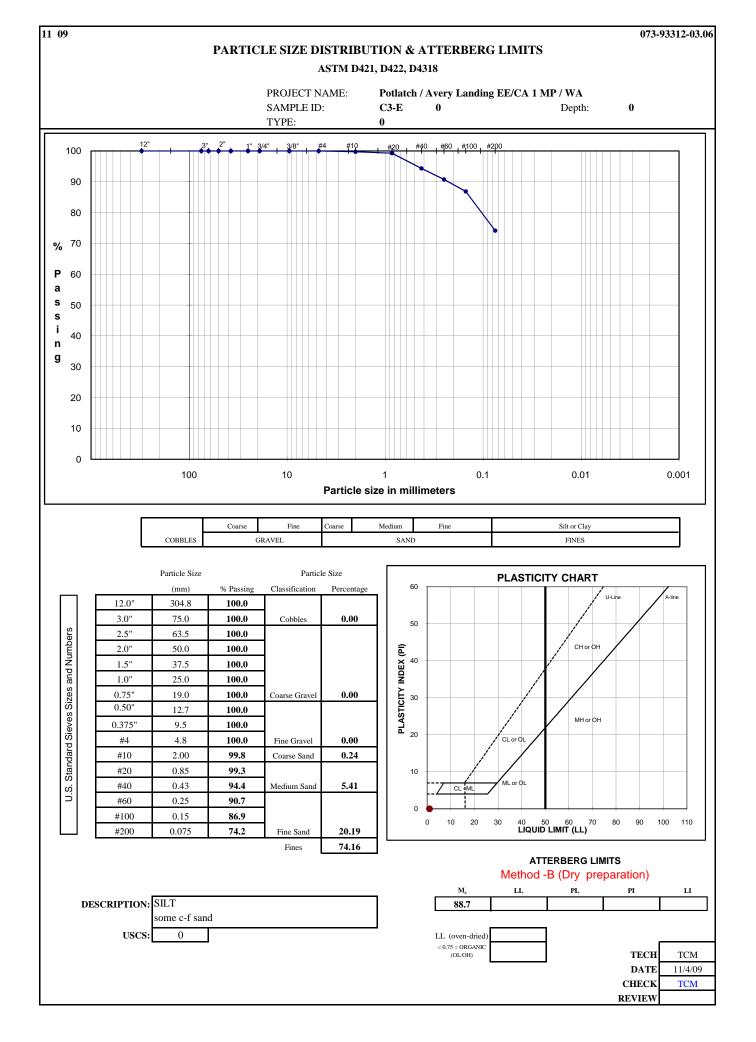


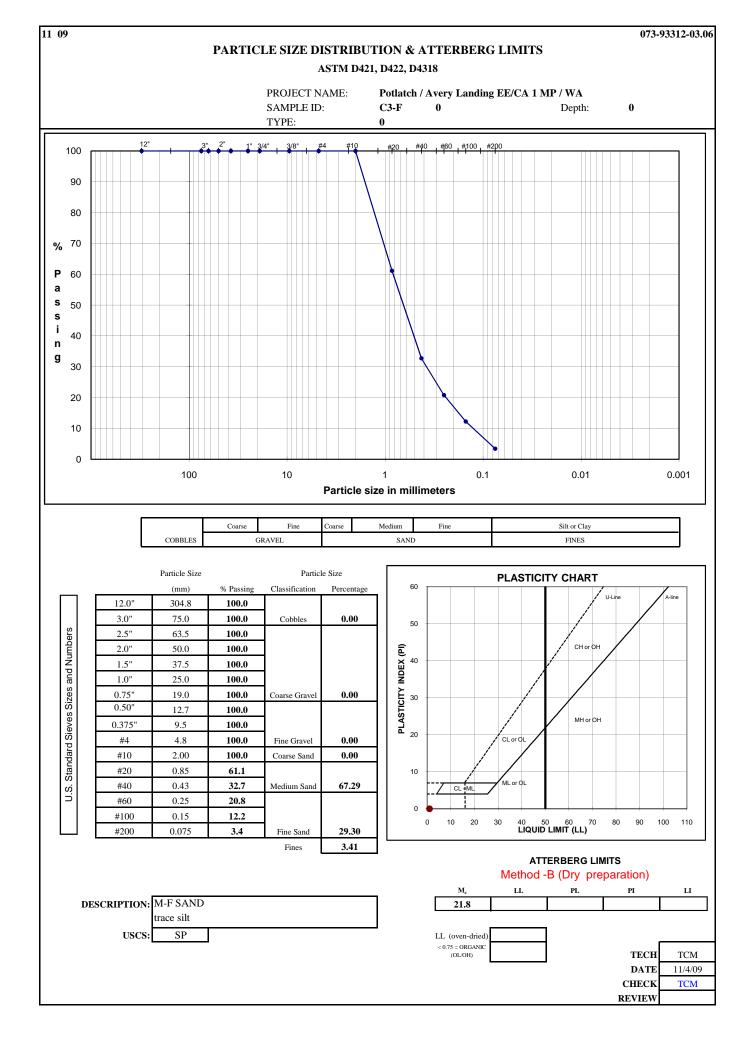


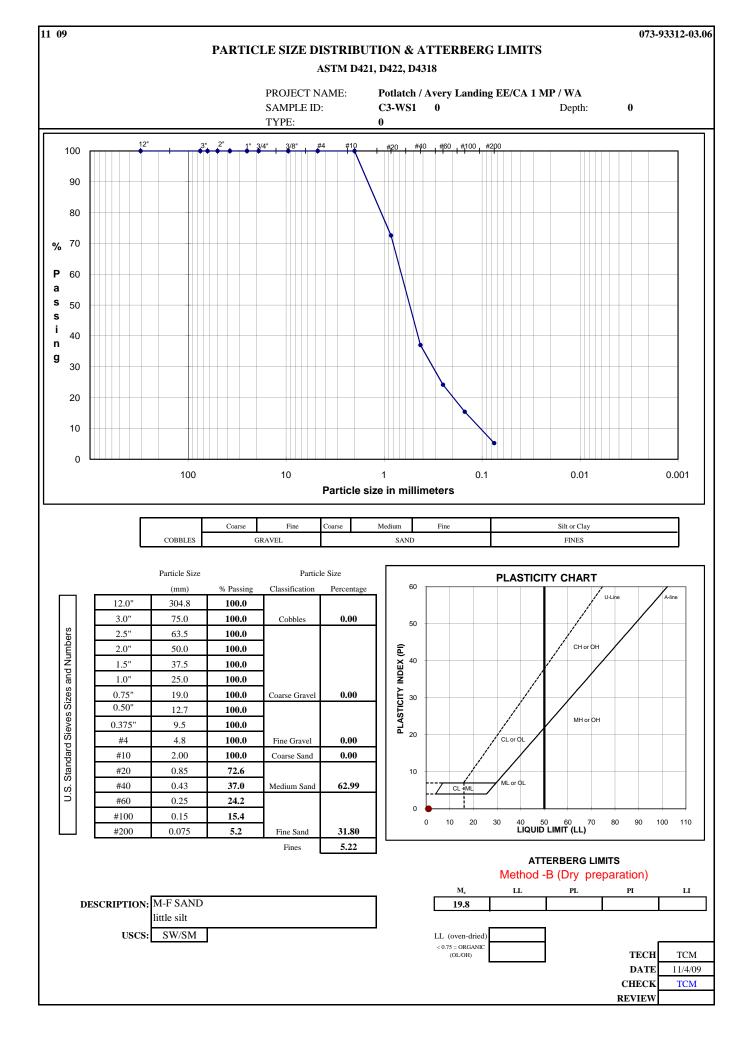


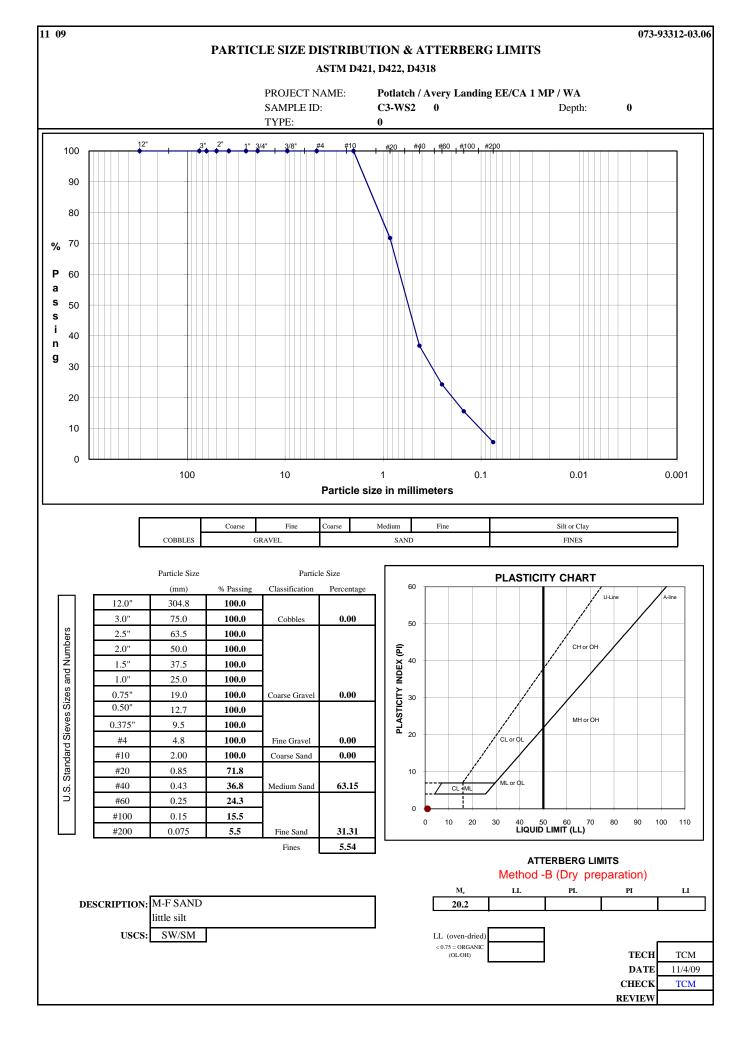


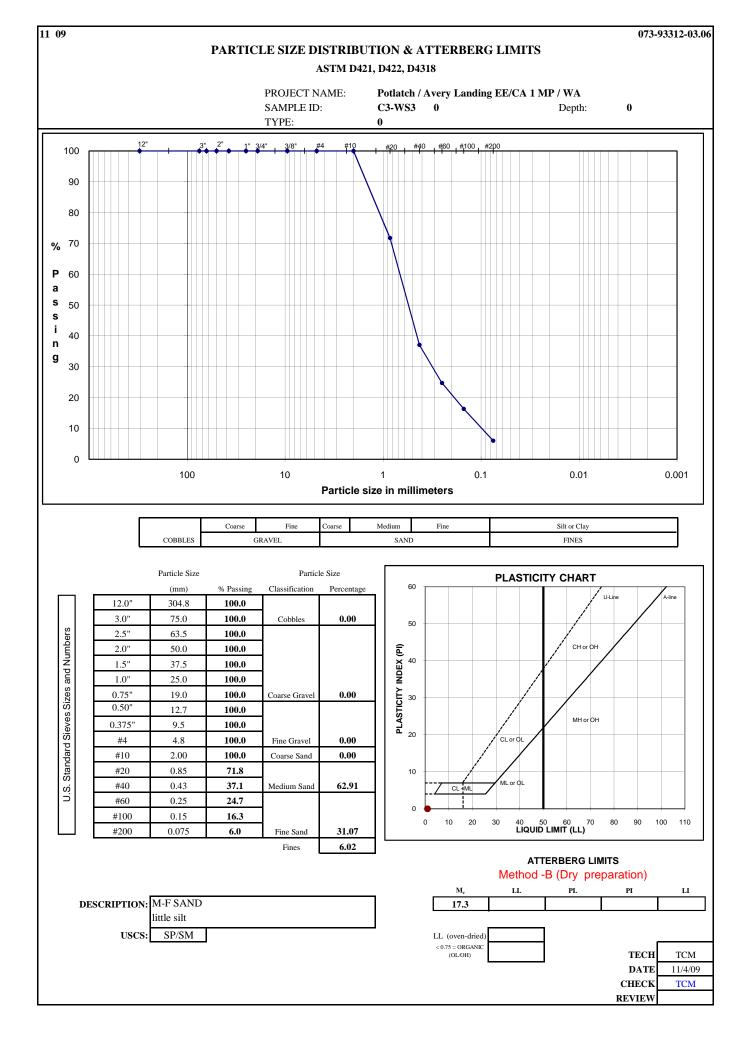


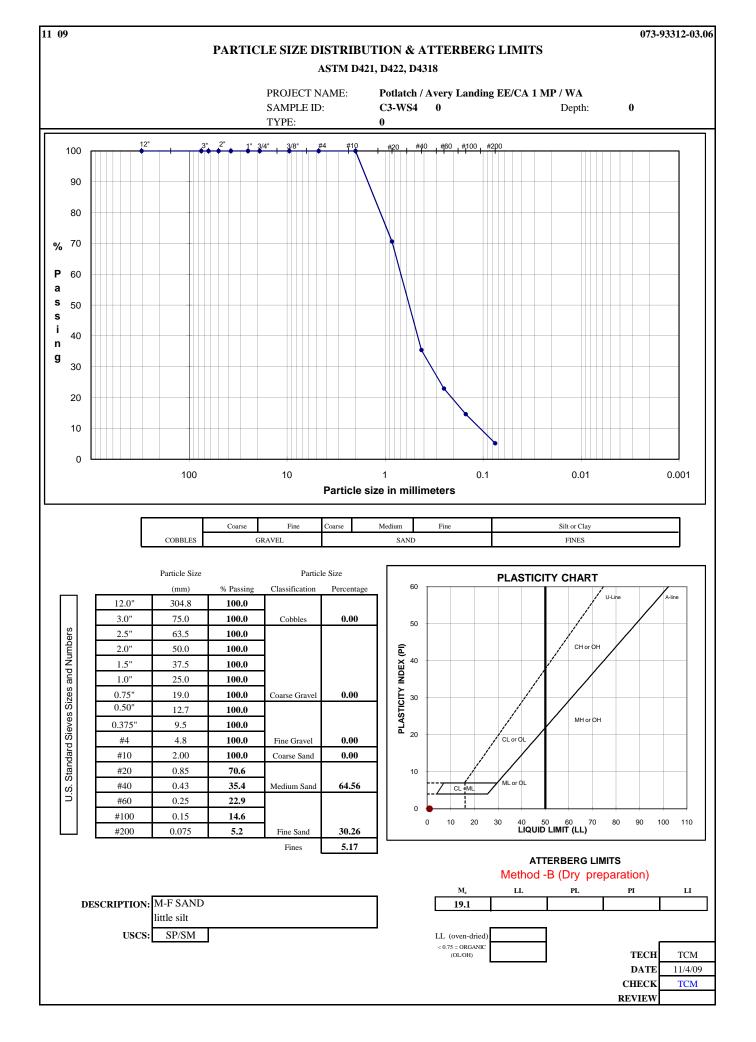


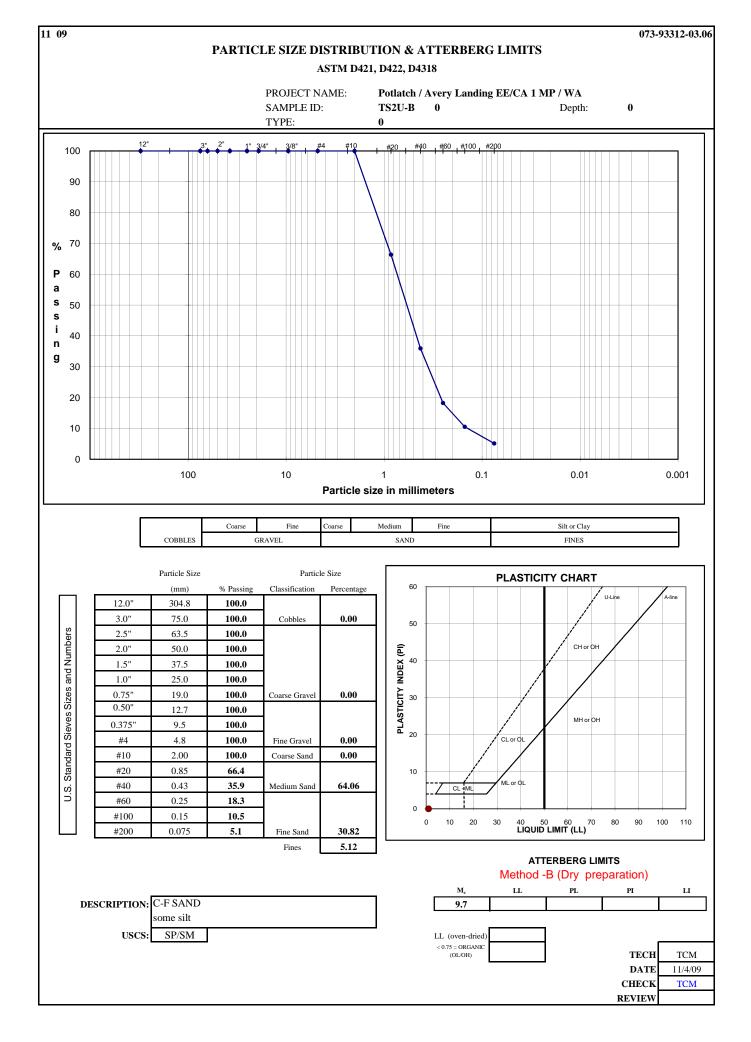


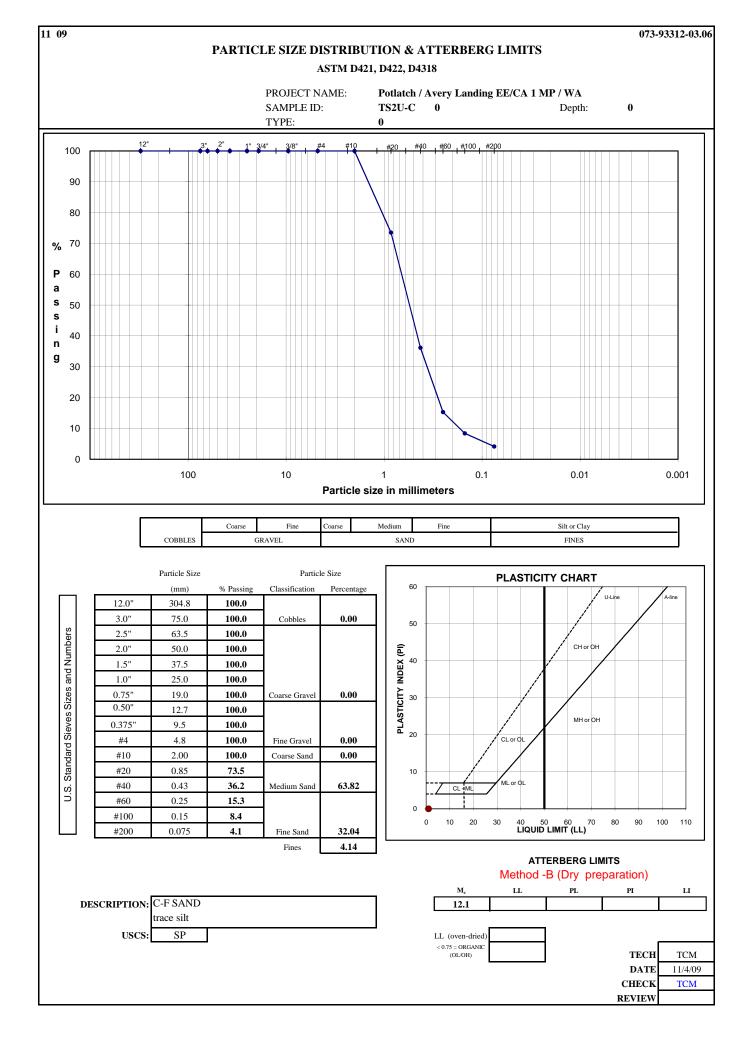


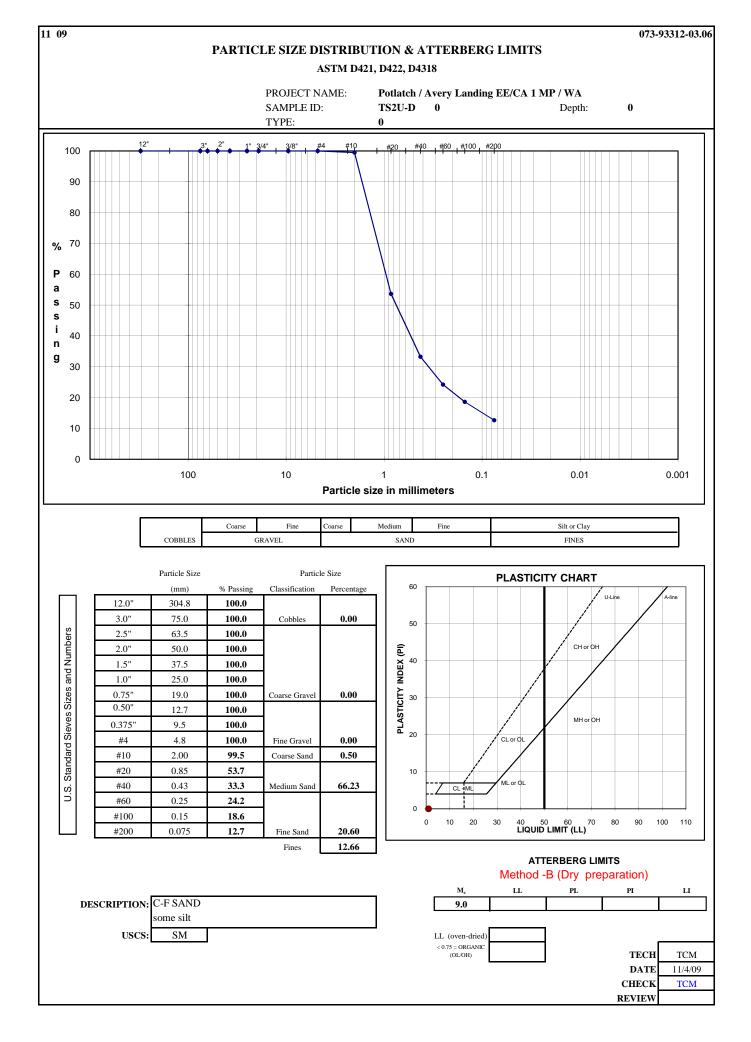


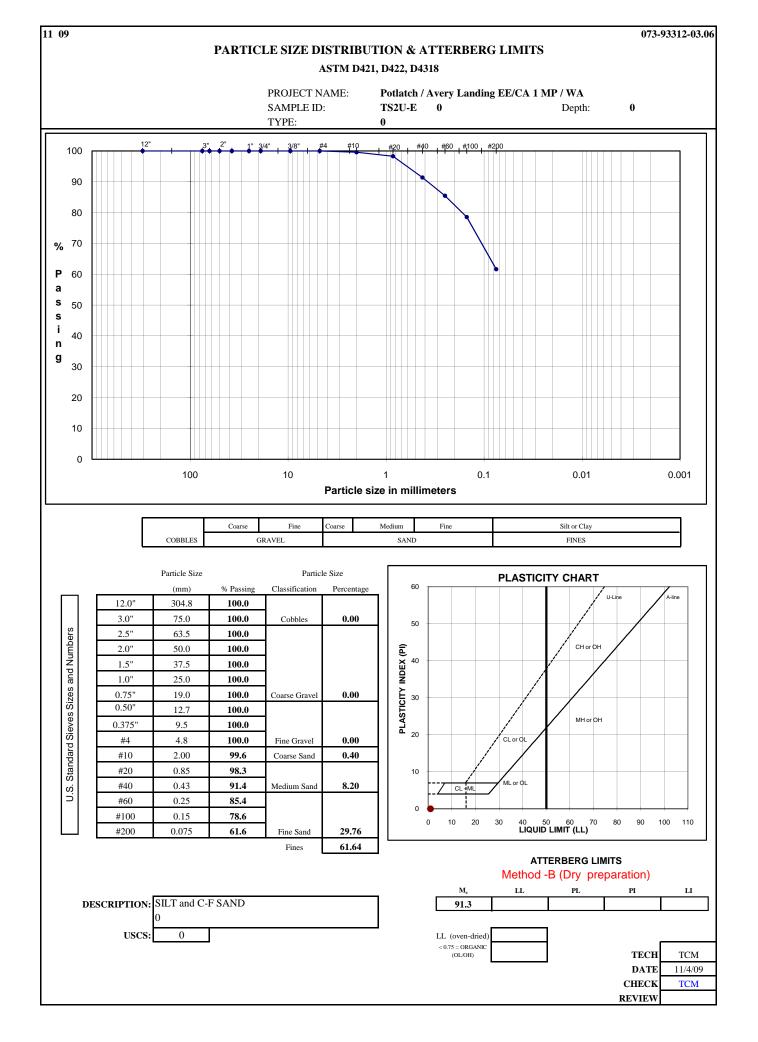


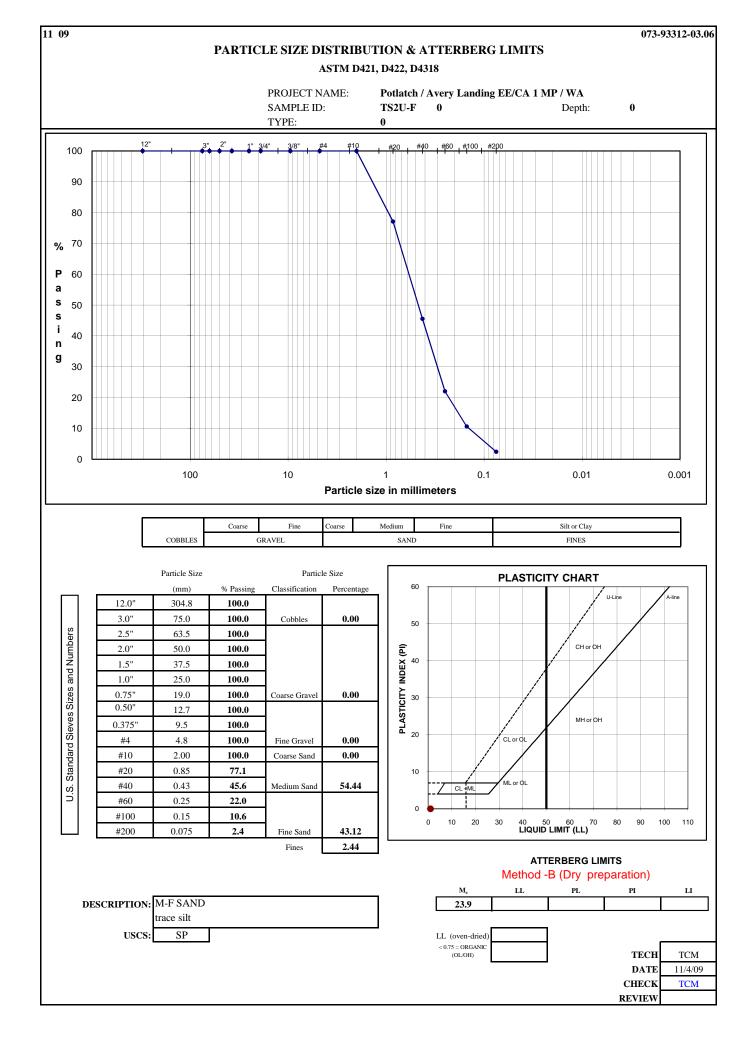


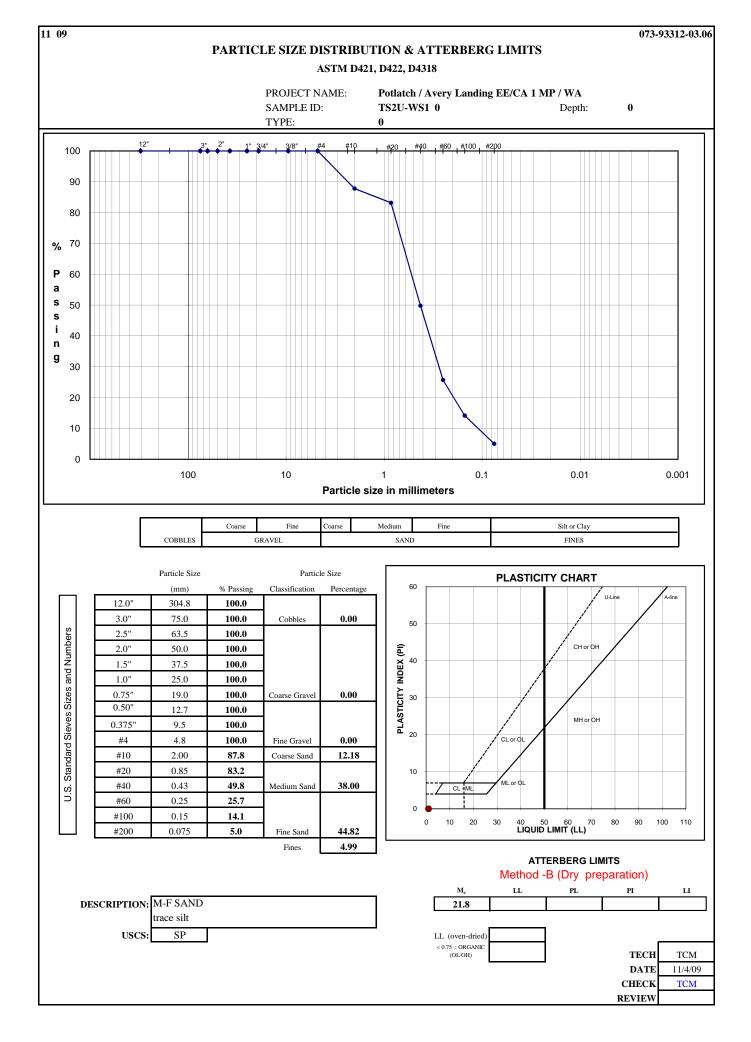


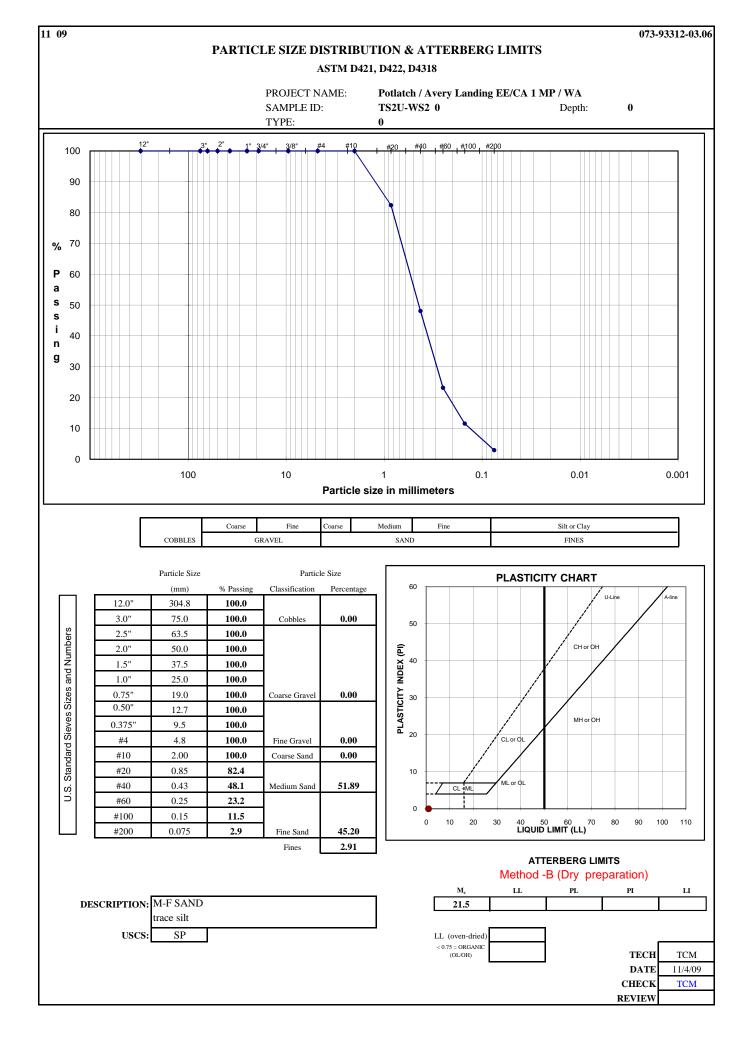


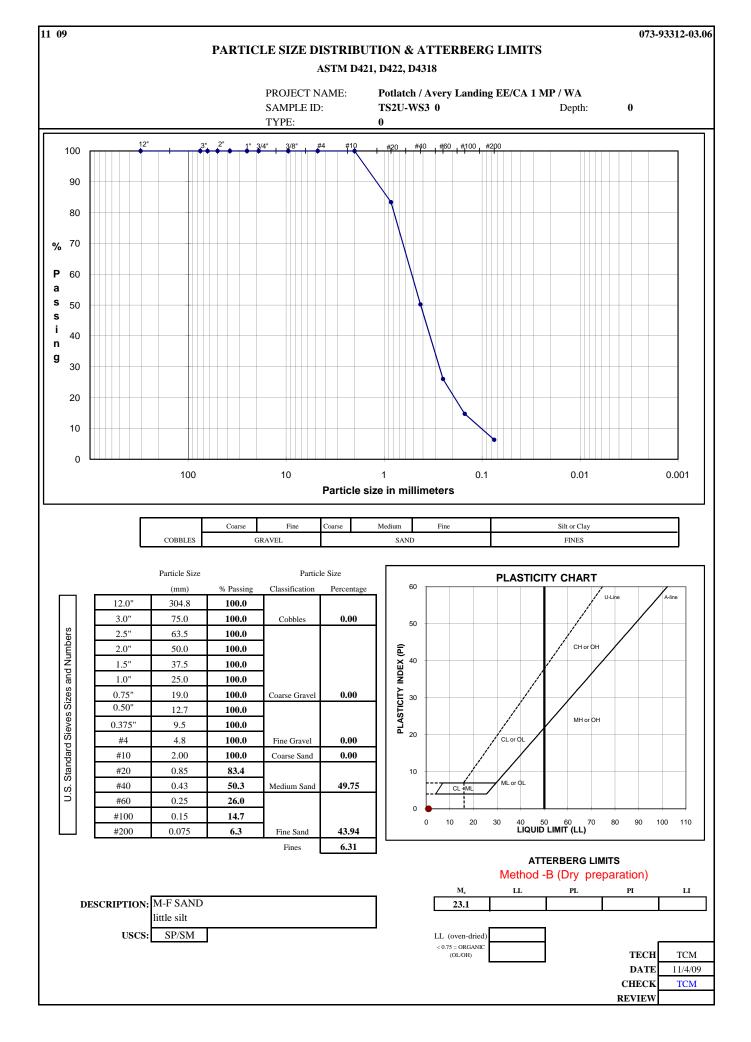


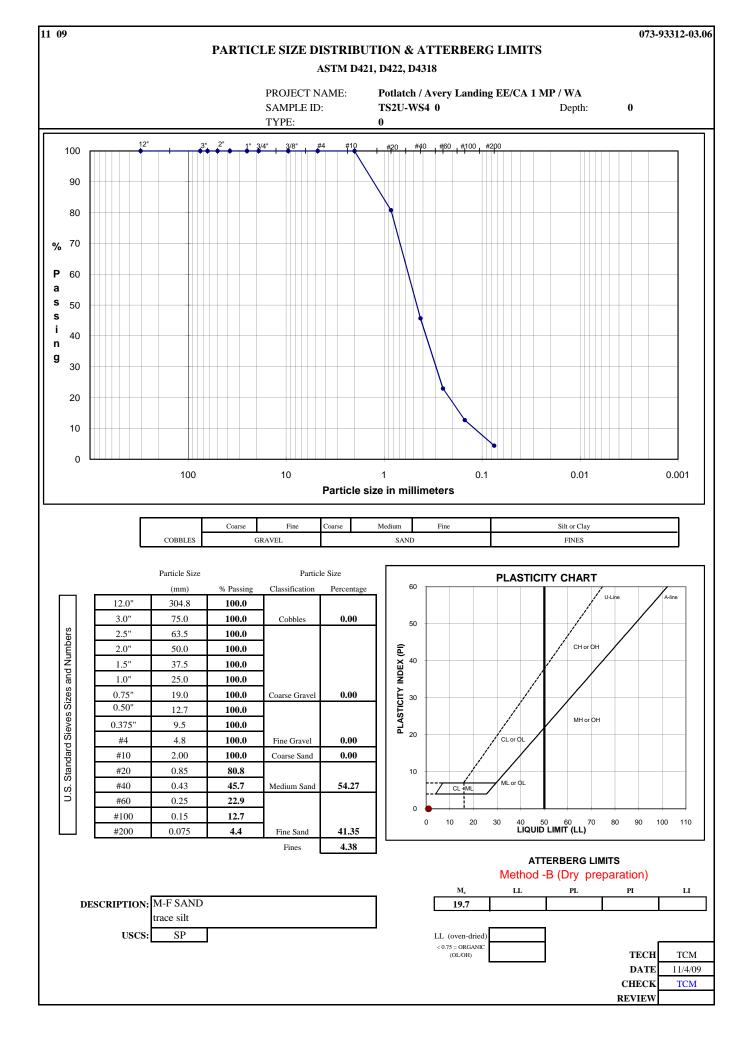


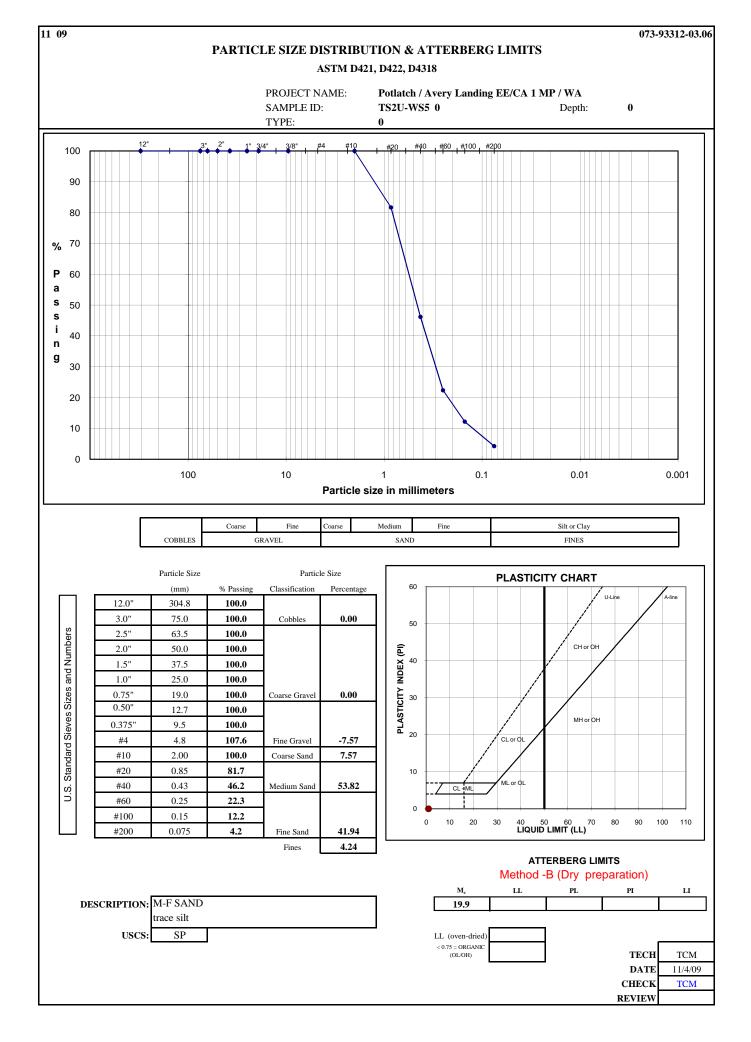












# Attachment C Analytical Data Reports

### G

# **Data and Assumptions for Cost Estimates**

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Removal Action Cost Analysis, Alternative A2 LNAPL Extraction and Ex Situ Thermal Desorption of Soils Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Direct Capital Costs					
Item Description	Quantity	Unit	Cost/Unit	Cost	Reference
Field Overhead and Oversight	6.5	month	\$19,000	\$123,500	Assembly
Mobilization and Demobilization (non-thermal equipment)	1	l.s.	\$3,500	\$3,500	Assembly
Dewatering Pad	1	l.s.	\$15,000	\$15,000	Estimate
3000 PSI Pressure Washer for deconning	1	ea	\$6,875	\$6,875	33 17 0816
Excavation of Overburden	90,769	c.y.	\$2.52	\$228,738	31 23 16 1030
Excavation of Contaminated Soil	46,950	C.y.	\$3.52	\$165,265	31 23 16 1030
Material Hauling (from excavation to treatment unit/storage area)	137,719	c.y.	\$2.64	\$363,579	31 23 23.20 0014
Low Temperature Thermal Desportion Treatment	46,950	c.y.	\$89.05	\$4,180,915	Vendor Quote
Retreat 10% using LTTD	4,695	c.y.	\$89.05	\$418,092	Vendor Quote
Disposal of Process Residue/Untreatable Soil	4,695	c.y.	\$27.40	\$128,644	Vendor Quote
Transportation of Process Residue/Untreatable Soil	4,695	C.y.	\$34.25	\$160,804	Vendor Quote
Material Hauling (from treatment unit/storage area to excavation)	137,719	c.y.	\$2.64	\$363,579	31 23 23.20 0014
Backfill gravel trench	13,502	c.y.	\$0.67	\$9,046	31 23 23 4000
Soil Placement and Compaction	137,719	c.y.	\$0.43	\$59,219	31 23 23.23 5000
Seeding	4.18	acre	\$2,022	\$8,461	Vendor Quote
Fertilizer	4.18	acre	\$595	\$2,490	Vendor Quote
Confirmation Sampling (treatment unit)	100	ea	\$200	\$20,000	Estimate
Confirmation Sampling (excavation)	250	ea	\$200	\$50,000	Estimate
LNAPL Extraction and Treatment Equipment Rental	5	month	\$23,502	\$117,510	Vendor Quote
LNAPL Extraction/Treatment Equipment Mobe/Demobe	1	l.s.	\$13,050	\$13,050	Vendor Quote
LNAPL Extraction/Treatment Equipment Expendables	2	charge	\$18,580	\$37,160	Vendor Quote
LNAPL Labor (2 skilled laborers)	6.5	month	\$23,056	\$149,864	RS Means
Transportation of LNAPL to incinerator	1	Load	\$3,375.00	\$3,375	Vendor Quote
LNAPL Disposal (Incineration)	2,500	gallons	\$0.50	\$1,250	Vendor Quote
Roadway - Subgrade preparation	30,000	s.f.	\$0.50	\$15,000	Estimate
Roadway - gravel base course	1,111	c.y.	\$54	\$59,994	32 11 23.23 1523 plus 30% for delivery
Roadway - bituminous stabilized top course	3,333	s.y.	\$24	\$79,999	
Roadway - 2-inch asphalt pavement layer	3,333	s.y.	\$12	\$39,996	32 12 16.13 0380 plus 30% for delivery
Silt Curtain	300	l.f.	\$15	\$4,500	Estimate
Excavate and Load Riprap	6,000	c.y.	\$10	\$60,000	31 23 23.15 6000
Haul riprap to/from stockpile	4,806	c.y.	\$2.64	\$12,688	31 23 23.20 0014
Crushed Stone for Bank Reconstruction	1,800	c.y.	\$30	\$54,000	Esitmate
Geotextile	32,400	s.f.	\$0.40	\$12,960	Estimate
Riprap from off-site	1,194	c.y.	\$65	\$77,610	31 37 13.10 0100
Place Riprap	6,000	c.y.	\$25	\$150,000	31 37 13.10 0370
Subtotal Direct Capital Costs (rounded to nearest \$10,000)				\$7,200,000	
Indirect Capital Costs					
Engineering and Design (7%)				\$504,000	
Administration (5%)	\$360,000				
Legal Fees and License/Permit Costs (5%)					
3rd Party Construction Oversight (5%)					
Subtotal Indirect Capital Costs					
Subtotal Capital Costs					
Contingency Allowance (20%)				\$1,757,000	
Total Alternative Cost (rounded to nearest \$10,000)				\$10.540.000	
Key:				<b>\$.5,540,000</b>	

Key:

.ey. LNAPL = Liquid non-aqueous phased liquid.

I.s. = Lump sum.

c.y. = Cubic yard. PSI = Pounds per square inch.

I.f. = linear foot.

s.f. = square foot.

Note: XX XX XX.XX XXX references are from RS Means Heavy Construction Cost Data 2010.

General Assumptions: Surface Area of LNAPL Plume Area: 174,424 square feet Area determined from AutoCad Surface Area of Discrete Excavation Areas: Total Surface Area of LNAPL Contaminated Areas: 7,853 square feet 182,277 square feet Density of Soil: 1.37 tons/cubic yard Volume of Overburden from Discrete Excavation Locations: 12,799 cubic yards Volume of Overburden from LNAPL Plume Area: Volume of Non-LNAPL Contaminated Soil from Side Slope Excavation: 60,970 cubic yards Volume determined from AutoCad using TPH thickness data. 17.000 cubic yards Total Volume of Overburden: 90,769 cubic yards Weight of Overburden: 124,354 tons Volume of LNAPL Contaminated Soil from LNAPL Plume Area: 40,646 cubic yards Volume determined from AutoCad using TPH thickness data. Volume of LNAPL Contaminated Soil from Discrete Excavation Locations: Total Volume of LNAPL Contaminated Soil to be Excavated: 2,036 cubic yards 42,682 cubic yards Plus 10% Factor 46,950 cubic yards Weight of Contaminated Soil: 64,322 tons Production/Treatment Rate Lttd Unit treats 20 tons/hour Vendor Quote for 6 days per week 14.6 c.y./hour or 350 c.y./day 24 hours per day 2,102 c.y./week Total time required to treat: 20.30 weeks 5 months Field Overhead and Expenses (per month basis) Item Superintendent Cost/Month reference \$14,016 01 31 13.20 0260 \$2,500 01 31 13.20 0020 Trailers (2) \$574 01 52 13.20 0350 Eletric \$800 Estimate Telephone (2 hard lines) \$400 Estimate Porta John (3) \$814 01 54 33 40 6410 Field Office Expenses \$184 01 52 13.40 0100 \$19,000 per month Total: Mobe/Demobe Item Cost/Unit Cost Backhoe (mobe) \$251 \$502 01 54 36.5 0020 2

> \$251 \$188 \$251

\$251

\$188

Dozer (mobe)

75 mile transport (mobe)

75 mile transport (demobe)

Backhoe (demobe)

\$502 01 54 36.5 0020

\$753 01 54 36.5 2500

\$502 01 54 36.5 0020

\$502 01 54 36.5 0020

\$753 01 54 36.5 2500 \$3,500

## Removal Action Cost Analysis, Alternative A3 LNAPL Extraction and Ex Situ Soil Washing Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Direct Capital Costs					
Item Description	Quantity	Unit	Cost/Unit	Cost	Reference
Field Overhead and Oversight	3.5	month	\$19.000	\$66,500	Assembly
Mobilization and Demobilization (non-treatment equipment)	1	l.s.	\$3,500	\$3,500	Assembly
Dewatering Pad	1	l.s.	\$15,000	\$15,000	Estimate
3000 PSI Pressure Washer for deconning	1	ea	\$6,875	\$6,875	33 17 0816
Excavation of Overburden	90,769	C.y.	\$2.52	\$228,738	31 23 16 1030
Excavation of Contaminated Soil	46,950	C.y.	\$3.52	\$165,265	31 23 16 1030
Material Hauling (from excavation to treatment unit/storage area)	137,719	c.y.	\$2.64	\$363,579	31 23 23.20 0014
Mobe/Demobe Soil Washing Equipemt	1	l.s.	\$520,000	\$520,000	Vendor Quote
Soil Washing Processing Costs	46,950	c.y.	\$41.10	\$1,929,653	Vendor Quote
Retreat 10% using Soil Washing	4,695	c.y.	\$41.10	\$192,965	Vendor Quote
Disposal of Process Residue/Untreatable Soil	4,695	c.y.	\$27.40	\$128,644	Vendor Quote
Transportation of Process Residue/Untreatable Soil	4,695	c.y.	\$34.25	\$160,804	Vendor Quote
Material Hauling (from treatment unit/storage area to excavation)	137,719	c.y.	\$2.64	\$363,579	31 23 23.20 0014
Purchase & transport of additional fill	4,695	c.y.	\$7.00	\$32,865	Vendor Quote
Backfill gravel trench	13,502	c.y.	\$0.67	\$9,046	31 23 23 4000
Soil Placement and Compaction	137,719	c.y.	\$0.43	\$59,219	31 23 23.23 5000
Seeding	4.18	acre	\$2,022	\$8,461	Vendor Quote
Fertilizer	4.18	acre	\$595	\$2,490	Vendor Quote
Confirmation Sampling (treatment unit)	100	ea	\$200	\$20,000	Estimate
Confirmation Sampling (excavation)	250	ea	\$200	\$50,000	Estimate
LNAPL Extraction and Treatment Equipment Rental	2	month	\$23,502	\$52,450	Vendor Quote
LNAPL Extraction/Treatment Equipment Mobe/Demobe	1	l.s.	\$13,050	\$13,050	Vendor Quote
LNAPL Extraction/Treatment Equipment Expendables	2	charge	\$18,580	\$37,160	Vendor Quote
LNAPL Labor (2 skilled laborers)	3.5	month	\$23,056	\$80,696	RS Means
Transportaion of LNAPL to incinerator	1	Load	\$3,375.00	\$3,375	Vendor Quote
LNAPL Disposal	2,500	gallons	\$0.50	\$1,250	Vendor Quote
Roadway - Subgrade preparation	30,000	s.f.	\$0.50	\$15,000	Estimate
Roadway - gravel base course	1,111	c.y.	\$54	\$59,994	32 11 23.23 1523 plus 30% for delivery
Roadway - bituminous stabilized top course	3,333	S.y.	\$24	\$79,999	32 11 26.19 1100 plus 30% for delivery
Roadway - 2-inch asphalt pavement layer	3,333	s.y.	\$12	\$39,996	32 12 16.13 0380 plus 30% for delivery
Silt Curtain	300	l.f.	\$15	\$4,500	Estimate
Excavate and Load Riprap	6,000	c.y.	\$10	\$60,000	31 23 23.15 6000
Haul riprap to/from stockpile	4,806	c.y.	\$2.64	\$12,688	31 23 23.20 0014
Crushed Stone for Bank Reconstruction	1,800	c.y.	\$30	\$54,000	Esitmate
Geotextile	32,400	s.f.	\$0.40	\$12,960	Estimate
Riprap from off-site	6,000	c.y.	\$65	\$390,000	31 37 13.10 0100
Place Riprap	6,000	c.y.	\$25	\$150,000	31 37 13.10 0370
Subtotal Direct Capital Costs (rounded to nearest \$10,000)				\$5,390,000	
Indirect Capital Costs					
Engineering and Design (7%)				\$377,000	
Administration (5%)					
Legal Fees and License/Permit Costs (5%)	\$270,000				
3rd Party Construction Oversight (5%) \$270,00					
Subtotal Indirect Capital Costs					
Subtotal Capital Costs \$					
Contingency Allowance (20%) \$					
Total Alternative Cost (rounded to nearest \$10,000)				\$7.890.000	
Key:				. ,,	

key:

LNAPL = Liquid non-aqueous phased liquid.

l.s. = Lump sum.

c.y. = Cubic yard.

PSI = Pounds per square inch.

l.f. = linear foot.

s.f. = square foot.

Note: XX XX XX.XX XXX references are from RS Means Heavy Construction Cost Data 2010.

General Assumptions:		Notes:
Surface Area of LNAPL Plume Area:	174,424 square feet	Area determined from AutoCad
Surface Area of Discrete Excavation Areas:	7,853 square feet	
Total Surface Area of LNAPL Contaminated Areas:	182,277 square feet	
Density of Soil:	1.37 tons/cubic yard	
Volume of Overburden from Discrete Excavation Locations:	12,799 cubic yards	
Volume of Overburden from LNAPL Plume Area and Discrete Locations:	60,970 cubic yards	Volume determined from AutoCad using TPH thickness data.
Volume of Non-LNAPL Contaminated Soil from Side Slope Excavation:	17,000 cubic yards	
Total Volume of Overburden:	90,769 cubic yards	
Weight of Overburden:	124,354 tons	
Volume of LNAPLContaminated Soil from LNAPL Plume Area:	40,646 cubic yards	Volume determined from AutoCad using TPH thickness data.
Volume of LNAPL Contaminated Soil from Discrete Excavation Locations:	2,036 cubic yards	•
Total Volume of LNAPL Contaminated Soil to be Excavated:	42,682 cubic yards	
Plus 10% Factor	46,950 cubic yards	
Weight of Contaminated Soil:	64,322 tons	

#### Production/Treatment Rate

Soil Washing Production: 850 c.y./day Vendor Quote

4,250 c.y./week

Total time required to treat: 10.04 weeks

Soils to be shipped off-site for disposal (10%): 203.6 cubic yards

#### Field Overhead and Expenses (per month basis)

Item	Cost/Month reference
Superintendent	\$14,016.00 01 31 13.20 0260
Clerk	\$2,500.00 01 31 13.20 0020
Trailers (2)	\$574.00 01 52 13.20 0350
Eletric	\$800.00 Estimate
Telephone (2 hard lines)	\$400.00 Estimate
Porta John (3)	\$813.72 01 54 33 40 6410
Field Office Expenses	\$184.40 01 52 13.40 0100
Total:	\$19,000 per month

Item	Qty	Co	st/Unit Cost	ref
Backhoe (mobe)		2	\$251	\$502 01 54 36.5 0020
Dozer (mobe)		2	\$251	\$502 01 54 36.5 0020
75 mile transport (mobe)		4	\$188	\$753 01 54 36.5 2500
Backhoe (demobe)		2	\$251	\$502 01 54 36.5 0020
Dozer (demobe)		2	\$251	\$502 01 54 36.5 0020
75 mile transport (demobe)		4	\$188	\$753 01 54 36.5 2500
				\$3,500

Removal Action Cost Analysis, Alternative A4 LNAPL Extraction and Off-Site Disposal Draft Engineering Evaluation/Cost Analysis Avery Landing Site, Avery, Idaho

Item Description	Quantity	Unit	Cost/Unit	Cost	Reference
Field Overhead and Oversight	3.5	month	\$19.000	\$66,500	Assembly
Mobilization and Demobilization (non-treatment equipment)	1	l.s.	\$3,500	\$3,500	Assembly
Pre-design PCB Investigation	1	l.s.	\$25,000	\$25,000	Estimate
Dewatering Pad	1	l.s.	\$15,000	\$15,000	Estimate
3000 PSI Pressure Washer for deconning	1	ea	\$6,875	\$6,875	33 17 0816
Excavation of Overburden	90,769	C.y.	\$2.52	\$228,738	31 23 16 1030
Excavation of Contaminated Soil	46,950	C.y.	\$3.52	\$165,265	31 23 16 1030
Material Handling	137,719	C.y.	\$2.64	\$363,579	31 23 23.20 0014
Disposal of Contaminated Soil	42,950	ton	\$20	\$858,995	Vendor Quote
Transportation of Contaminated Soil	42,950	ton	\$24.50	\$1,052,269	Vendor Quote
Disposal of PCB Contaminated Soil	21,372	ton	\$21.50	\$459,498	Vendor Quote
Transportation of PCB Contaminated Soil	21,372	ton	\$36.30	\$775,804	Vendor Quote
Purchase & transport of additional fill	42,682	C.y.	\$7.00	\$298,774	Vendor Quote
Material Hauling (from treatment unit/storage area to excavation)	90,769	C.y.	\$2.64	\$239,630	31 23 23.20 0014
Backfill gravel trench	13,502	C.y.	\$0.67	\$9,046	31 23 23 4000
Soil Placement and Compaction	137,719	C.y.	\$0.43	\$59,219	31 23 23.23 5000
Seeding	4.18	acre	\$2,022	\$8,461	Vendor Quote
Fertilizer	4.18	acre	\$595	\$2,490	Vendor Quote
Confirmation Sampling (treatment unit)	100	ea	\$200	\$20,000	Estimate
Confirmation Sampling (excavation)	250	ea	\$200	\$50,000	Estimate
LNAPL Extraction and Treatment Equipment Rental	3.5	month	\$23,502	\$82,257	Vendor Quote
LNAPL Extraction/Treatment Equipment Mobe/Demobe	1	l.s.	\$13,050	\$13,050	Vendor Quote
LNAPL Extraction/Treatment Equipment Expendables	2	charge	\$18,580	\$37,160	Vendor Quote
LNAPL Labor (2 skilled laborers)	3.5	month	\$23,056	\$80,696	RS Means
Transportation of LNAPL to incinerator	1	Load	\$3,375.00	\$3,375	Vendor Quote
LNAPL Disposal	2,500	gallons	\$0.50	\$1,250	Vendor Quote
Roadway - Subgrade preparation	30,000	s.f.	\$0.50	\$15,000	Estimate
Roadway - gravel base course	1,111	c.y.	\$54	\$59,994	32 11 23.23 1523 plus 30% for delivery
Roadway - bituminous stabilized top course	3,333	s.y.	\$24	\$79,999	32 11 26.19 1100 plus 30% for delivery
Roadway - 2-inch asphalt pavement layer	3,333	s.y.	\$12	\$39,996	32 12 16.13 0380 plus 30% for delivery
Silt Curtain	300	l.f.	\$15	\$4,500	Estimate
Excavate and Load Riprap	6,000	c.y.	\$10	\$60,000	31 23 23.15 6000
Haul riprap to/from stockpile	4,806	c.y.	\$2.64	\$12,688	31 23 23.20 0014
Crushed Stone for Bank Reconstruction	1,800	c.y.	\$30	\$54,000	Esitmate
Geotextile	32,400	s.f.	\$0.40	\$12,960	Estimate
Riprap from off-site	6,000	c.y.	\$65	\$390,000	31 37 13.10 0100
Place Riprap	6,000	c.y.	\$25	\$150,000	31 37 13.10 0370
Subtotal Direct Capital Costs (rounded to nearest \$10,000)				\$5,810,000	
Indirect Capital Costs					
Engineering and Design (7%)					
Administration (5%)					
Legal Fees and License/Permit Costs (5%)					
3rd Party Construction Oversight (5%)	\$290,000				
Subtotal Indirect Capital Costs \$1,2					
Subtotal Capital Costs \$7,087,1					
Contingency Allowance (20%) \$1,4					
Total Alternative Cost (rounded to nearest \$10.000)				\$8,500,000	
Total Alternative Cost (rounded to flearest \$10,000)					

Key:

LNAPL = Liquid non-aqueous phased liquid.

I.s. = Lump sum.

c.y. = Cubic yard.

PSI = Pounds per square inch.

I.f. = linear foot.

s.f. = square foot.

Note: XX XX XX.XX XXX references are from RS Means Heavy Construction Cost Data 2010.

General Assumptions:		Notes:
Surface Area of LNAPL Plume Area	: 174,424 square feet	Area determined from AutoCad
Surface Area of Discrete Excavation Areas	: 7,853 square feet	
Total Surface Area of LNAPL Contaminated Areas	: 182,277 square feet	
Density of Soil	: 1.37 tons/cubic yard	
Volume of Overburden from Discrete Excavation Locations	,,,	
Volume of Overburden from LNAPL Plume Area		Volume determined from AutoCad using TPH thickness data.
Volume of Non-LNAPL Contaminated Soil from Side Slope Excavation:		
Total Volume of Overburden		
Weight of Overburden	: 124,354 tons	
Volume of Contaminated Soil from I NAPI Plume Area	: 40,646 cubic yards	Volume determined from AutoCad using TPH thickness data.
Volume of LNAPI. Contaminated Soil from Discrete Excavation Locations		Volume determined from Addodad daling 11 11 thickness data.
Total Volume of Contaminated Soil to be Excavated		
Plus 10% Factor	, , ,	
Flus 10 % Factor	40,930 cubic yards	
Net Volume (Non-PCB)	) 31,350 cubic yards	
Weight of (Non-PCB) Contaminated Soil	: 42,950 tons	
Volume of PCB Contaminated Soil	: 15,600 cubic yards	
Weight of PCB Contaminated Soil		
Weight of PCB Contaminated Soil	. 21,372 tons	
Field Overhead and Expenses (per mor	nth basis)	
ltem	Cost/Month reference	
Superintendent	\$14,016.00 01 31 13.20 026	60
Clerk	\$2,500,00,01,31,13,20,002	20

Superintendent	\$14,016.00	01 31 13.20 0260
Clerk	\$2,500.00	01 31 13.20 0020
Trailers (2)	\$574.00	01 52 13.20 0350
Eletric	\$800.00	Estimate
Telephone (2 hard lines)	\$400.00	Estimate
Porta John (3)	\$813.72	01 54 33 40 6410
Field Office Expenses	\$184.40	01 52 13.40 0100
Total:	\$19,288.12	per month

#### Mobe/Demobe

Item	Qty	Cost	/Unit Cost	ref
Backhoe (mob	e)	2	\$251	\$502 01 54 36.5 0020
Dozer (mobe)		2	\$251	\$502 01 54 36.5 0020
75 mile transpo	ort (mob	4	\$188	\$753 01 54 36.5 2500
Backhoe (dem	obe)	2	\$251	\$502 01 54 36.5 0020
Dozer (demob	e)	2	\$251	\$502 01 54 36.5 0020
75 mile transpo	ort (dem	4	\$188	\$753 01 54 36.5 2500
				\$3,514